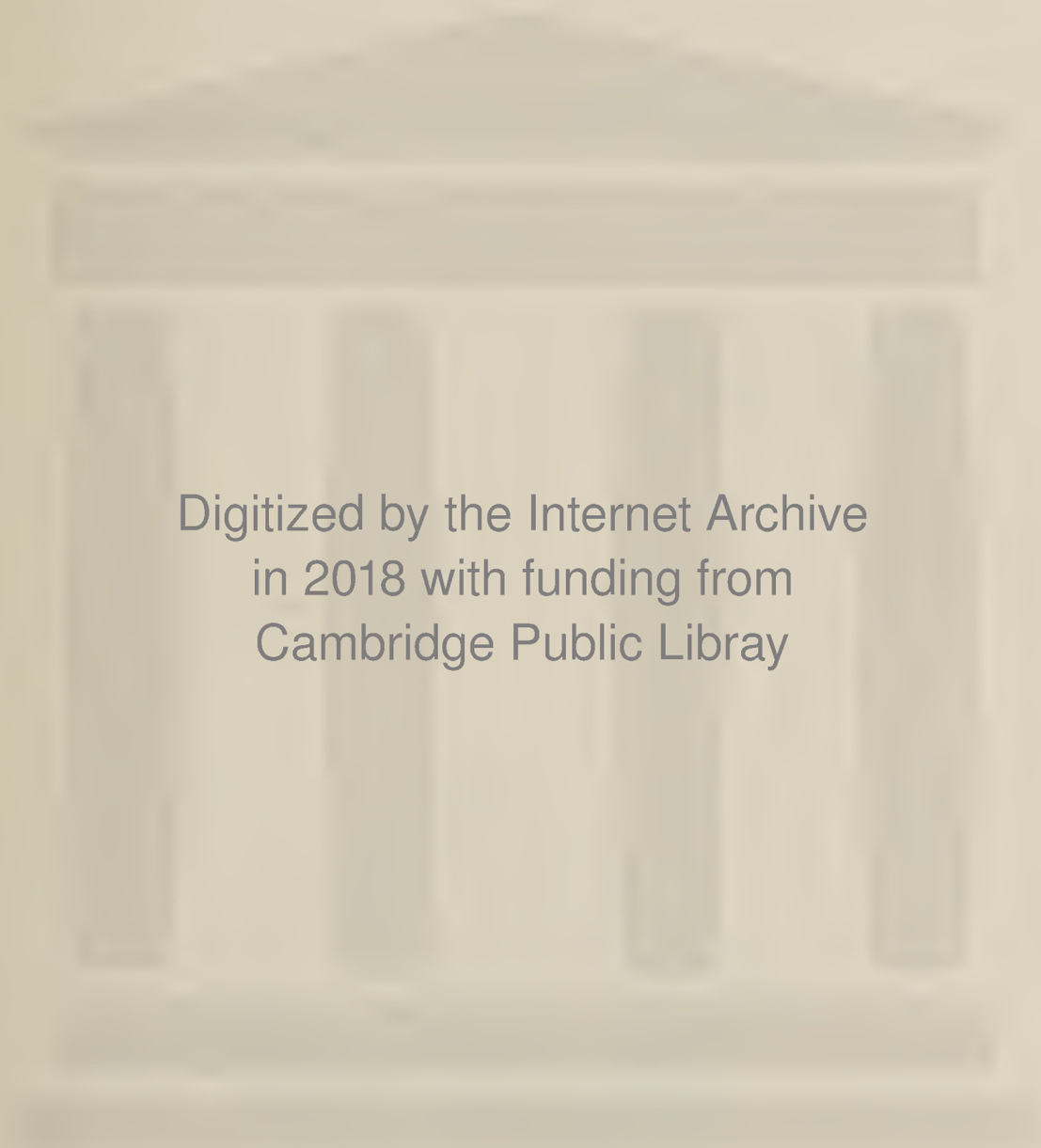

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City of Cambridge.

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THE

MAYOR'S ADDRESS

AT THE

ORGANIZATION OF THE CITY GOVERNMENT,

AND THE

ANNUAL REPORTS

MADE TO

THE CITY COUNCIL.

CAMBRIDGE:

PRESS OF JOHN WILSON AND SON.

1870.

CITY OF CAMBRIDGE.

In Common Council, January 12, 1870.

Ordered, That twelve hundred copies of the Mayor's Inaugural Address, together with the Annual Report of the Committee on Finance, made to the last City Council, with the accompanying documents, and such other documents as have been ordered to be printed by the City Council, be printed, under the direction of the City Clerk, for general distribution.

Adopted and sent up for concurrence.

Attest: J. W. COTTON, *Clerk.*

In Board of Aldermen, January 12, 1870.

Concurred.

Attest: JUSTIN A. JACOBS, *City Clerk.*

January 13, 1870.

Approved.

H. R. HARDING, *Mayor.*

ADDRESS

OF

HON. HAMLIN R. HARDING,

MAYOR.

Gentlemen of the City Council : —

Recognizing with humble gratitude the hand of Almighty God in the guidance of human affairs, thankful to Him for the protecting care which has preserved and guarded us thus far in this mortal life, it is fitting that we should, at all times, invoke a continuance of His care, protection, and guidance. Especially is this so when we are about to embark on a new, and to some of us an untried, voyage, — when we come, as we do this morning, to take upon ourselves new cares, to enter upon the performance of new duties, and to assume new responsibilities.

Chosen by our fellow-citizens to manage their municipal business during the term now commencing, and to guard their interests, so far as those interests may be affected by local government, we have accepted a burden which we cannot carelessly set aside, nor lightly regard. And here, at the beginning, in accordance with a custom long established, it may be well to pause for a few moments to take a slight survey, however

brief and imperfect, of the field which lies before us. In asking your attention to the remarks that I am about to make, I shall do so with the diffidence which one should feel who is aware that his utterances may be of little value; but, also, with something of that confidence which springs from a knowledge that in the topics themselves — without regard to their mode of treatment — there will be found much that is interesting, and ample food for reflection.

FINANCE.

The financial condition of Cambridge is most excellent. Such has been the judicious management of her affairs in the past that her position, in this respect, is of the strongest kind.

By the Report of the Committee on Finance, it appears that there was on hand, Dec. 1, 1868	$94,713.67
Received, from all sources, to Dec. 1, 1869 . .	1,305,243.19
Making the total receipts for the year	$1,399,956.86
And there has been expended during the year . .	1,336,618.80
Leaving a cash balance, Dec. 1, 1869, of . . .	$63,338.06
The amount of funded debt, Dec. 1, 1869, was .	$1,300,400.00
The increase in 1869 being $112,000, Water Loan.	
In addition to this amount, there fell due, in the month of December, the State and County Tax, of	$88,682.50
And bills payable, interest accruing, and bank tax, amounting to	3,967.91
Immediate liabilities, amounting to	$92,650.41
To meet which, the city has cash assets, amounting to	172,664.95
Thus showing a balance in favor, of	$80,014.54

Which, perhaps, as it is partly made up of the uncollected taxes of former years, should fairly be estimated at $20,000 less, leaving a balance of about $60,000.

Our actual condition therefore is, *funded debt* . .		$1,300,400.00
And, of this amount, the Water Loan represents the sum of	$828,400	
And there is the balance of cash assets, as above, of say	60,000	
Aggregating the sum		888,400.00
Thus leaving the real debt proper, as contracted for general city purposes, of		$412,000.00

Or about 1 per cent. only of our valuation, — an exhibit of which any city might be proud.

It will be noticed that I do not class the water-loan strictly as debt, for the reason that the Works themselves represent a productive, self-sustaining, and ultimately self-paying property to the amount of every dollar of cost.

Our rate of taxation for 1869 was $14 per $1,000, with a discount of 4 per cent. for payment on or before October 10, leaving the net amount $13.44 per thousand. I would suggest an increase in the rate of interest to be paid on taxes overdue. For nine months in the year, the city is compelled to borrow money at high rates of interest, and it seems to be proper that persons who neglect the payment of taxes should be required to pay a considerable additional amount in the form of interest.

During the past two years the city debt (exclusive of the water debt) has not been increased, and yet some $150,000 have been expended for permanent improve-

ments, &c., over and above the ordinary expenses of the government. The policy of keeping the debt within its present limits is unquestionably a good one, provided it can be done without putting too great a burden upon tax-payers in any particular year or series of years. There may, however, arise contingencies and necessities which make it a duty to increase the debt for permanent improvements, rather than to lay the whole burden upon the treasury during the year in which those improvements are made. For example, if we are to be compelled to expend $200,000 upon bridges within two or three years, and it seems quite possible that we may, it will probably be thought best to add a portion at least of this amount to the debt, instead of meeting the whole payment at once.

Another instance might be cited in the matter of sewers. It was thought, early last year, that an addition to the debt must be incurred to the amount of $25,000 for the Oxford-street sewer. This, however, was not done; but, in consequence of the sewer being only one quarter finished at the end of the year, we shall be compelled to meet, not an expenditure of $25,000 merely upon that much-needed improvement, but one of from $34,000 to $40,000. The necessity for large payments upon the contract for this sewer, from which good fortune preserved our predecessors, we can scarcely expect will be vouchsafed to us; and it will be a question whether the whole or only a part of this large sum shall be raised by taxation this year, or postponed to other days, when, perhaps, the city will be more nearly finished!

If all the suggestions that I intend herein to make are fully carried out, an increase of the debt will probably be considered inevitable, and yet I do not intend to recommend any thing which I consider of doubtful utility or which the people of Cambridge ought longer to dispense with.

SCHOOLS.

In England, and even in some parts of our own country, the question of the propriety, expediency, and justice of the education of the young at the public expense is still debated. With us of New England the argument has long since been closed, and the question has long since been settled. The safety of property, the existence of good government, and even the preservation of republican institutions, are involved in the proper instruction of all who are to take part in the affairs of life. Unless this is taken in hand by the public authorities, it will, in a vast majority of cases, be wholly neglected, and the necessity of public action becomes imperative. Having this obligation upon us, it is of the utmost importance that it should be fulfilled in the best possible way. The public school is but an humble entrance to that vast temple of knowledge which Nature throws open to her children, the secrets of which eternity itself will not suffice to exhaust. As the first step in the progress of a human soul during the countless ages which are to come, it is incumbent upon us to see that that step is taken in the right direction. Great care should be exercised in the selection of teachers,

and in all other matters connected with the management of the schools. The impress made upon the yielding mind of youth will remain through all the vicissitudes of maturer age in this life, and will last, we know not how long, in the life which is to come. I can quote, with hearty approval, the language of the Report of the School Committee of 1866, in which they say that "all the appointments and surroundings of the places where children are to be taught and trained, should conduce to cleanliness, cheerfulness, and good taste. Every thing conected with the school should be of a quality not only to awaken aspiration but to guide it."

Without claiming perfection for our schools, we may safely assert that they have acquired a very high order of excellence. As a general thing, the houses and furniture are all that we need to ask for; and the teachers are worthy of the responsible positions which they hold. Exceptions there doubtless are to both branches of this statement. So far as the teachers are concerned, however, the City Council has no voice in the matter: that subject being under the sole charge of the School Committee. In regard to the buildings and furniture, and the care of the same, the City Council is wholly responsible, and it becomes part of your duty to see that proper and ample provision is made for the suitable accommodation of all connected with the schools.

There is a pressing need of a new and commodious building for the use of the Harvard Grammar School in the Second Ward. The present building is much too small, very inconvenient, and in many ways quite

unfit for the use that is now made of it. Immediate steps ought to be taken in the direction indicated, so that a new edifice may be ready for occupancy before the expiration of the present year. A new Primary school-house will be needed this year in the Fourth Ward. A lot of land near Dana Square was purchased by the last City Council, but no progress was made toward the erection of a building. It will be for you to decide what shall be the size and character of the structure. My own opinion is that a brick building of eight rooms, similar to that finished a year ago on Winsor Street, and accommodating about four hundred and fifty pupils, will prove in the end the most suitable as well as the most economical. I desire here to say that all the school-houses in the city should be furnished with desks for the use of the pupils. Some of the primary schools are not so furnished, much to the inconvenience of both teachers and scholars. Alterations should, at an early day, be made in some of the Grammar school-houses, so that the excessively large rooms may be divided, and thus rendered much better adapted for use than they now are.

A valuable addition to our school system has recently been established by the School Committee, but has not yet commenced its operations. I refer to the Training School. This is intended, at very small cost to the city, to educate young ladies in the practical work of the school-room. It will enable the School Committee at all times to secure the services of competent persons to fill any vacancy that may occur, without going beyond our

own borders, as the Committee are now too often compelled to do. It is expected that the school will begin its work on or about the 1st of February.

As evidence of progress in the right direction I mention, with satisfaction, that in April last corporal punishment was abolished in the public schools of Cambridge, never, I trust, to be restored. Doubtless there has been and will be some friction in the operations of the new machinery, but I think that the experiment will ultimately prove entirely successful. If substitutes for corporal punishment are needed, the ingenuity of man is equal to their discovery; but let us not confess that force and violence are necessary until all other expedients fail.

The cost of instruction, alone, in our public schools, is now very nearly $100,000 per annum. The salaries of the teachers were increased last year; but are, even now, less than are paid in Boston, and are quite low enough.

By the establishment of the office of Superintendent of Schools, much good has been accomplished. I deem the work performed by the Superintendent valuable, and almost indispensable. His very able and exhaustive Report, soon to be laid before you in print, demonstrates his thorough knowledge of every thing appertaining to the schools, and is full of important suggestions.

WATER WORKS.

An absolute necessity for a city like Cambridge is an abundant supply of pure water for business purposes

and for domestic uses. Nothing, probably, retarded our growth and prosperity for many years so much as the deficiency under which we suffered of one of the most important articles of constant use. Even after the incorporation of the Water Company, and after the construction of the Works of that company, — so far as they were constructed, — the supply was insufficient and very unequally distributed over our territory. Always cramped for means, the company was unable to furnish the proper facilities for the delivery of such a quantity of water as was desirable and even needful, and thus we were practically deprived to a great extent of a most essential element. In the year 1865, the city purchased the property for a little less than $300,000. From that time until the present the works have been enlarged in every direction, so that we now have an establishment that is worthy of our city, and which constantly supplies no less than 4,863 families, besides a large number of manufactories, and other business places, with water.

For the doings of the Water Board, during the past year, I respectfully refer you to their Report. Under the able management of that Board, improvements and extensions have been made in every possible way. In the single matter of the laying of new main pipe, it may be remarked that no less than 34,577 feet, or about $6\frac{3}{4}$ miles in length, have been used during the past year, making about fifty miles, in all, now laid. The reservoirs, pumps, and all other appurtenances of the Works are believed to be in excellent order, and every way in a

satisfactory condition. Total cost of the Works, Nov. 30, 1869, $828,100.69.

Receipts from water-rates for the year ending Nov. 30, 1869	$76,149.30
Receipts from water-rates for the year ending Nov. 30, 1868	63,747.42
Increase in 1869	$12,401.88
Receipts from all sources for the year ending Nov. 30, 1869	$91,347.92
Receipts from all sources for the year ending Nov. 30, 1868	79,434.56
	$11,913.36
Net income for 1869, over expenses of care, &c.	$56,067.39
Do. for 1868	47,238.57
Increase, 1869	$9,828.82

It is deemed certain that "the receipts hereafter will, without any increase of the water rates, be sufficient to pay the expense and interest, and pay into the sinking fund a sum sufficient to meet the requirements of the law." The works are now practically completed, and the only expenditure (excepting for care, interest, &c.) which will be needed for a considerable time will be merely for the extension of main pipes wherever there is a necessity for their being laid. An appropriation of $50,000 for the year 1870 is recommended.

CEMETERY.

Respect for the remains of the departed, as shown in the careful tending and adornment of places of sepulture, is a natural sentiment common to all races of men. Rude and simple in its manifestations in the savage, it

shows itself in various beautiful forms as civilization advances and refinement takes the place of grossness. In Europe, this feeling has for ages been cultivated, so that in our time its cemeteries flower with the richest productions of human skill, dedicated to the memory of the dead. It would be unjust to say that our Puritan fathers were wanting in this sentiment because their burial-grounds were located on the bare hill-sides, unshaded by trees, unornamented by works of art, and exposed to the bleak and freezing winds of winter or the unsparing fierceness of the summer's sun. Their lives were lives of poverty and contention, — contention with savage beasts, savage men, an unfruitful soil, and an inclement sky. They had neither time nor means for the construction of "arcades of marble, for columns, statues, funeral vases, and sculptured garlands." But with us, whose good fortune it is to live in better days, it becomes a duty to do what they could not do, and thus we may well devote something of our means to the proper care, and even to the decoration, of the last resting-places of those who have gone before. With the material which Nature furnishes, fashioned by the cunning hand of Art, we may strive to adorn and render beautiful even the silent tomb, where ashes shall return to ashes and dust to dust.

The Cemetery belonging to the city has from the first gradually been improved and beautified. Under the judicious and tasteful management of the Commissioners it has been changed from its original wild condition to one of much attractiveness. From year to year great

care and judgment have been exercised in every thing connected with the work, and the result fully proves that the labor has not been in vain. During the past year, the pond has been deepened and the banks sodded. The island has been neatly graded and the soil enriched suitably for a lawn; and from the shore to the island a neat and substantial bridge has been constructed. The preparation of new lots is constantly going on. The number now ready for sale is eighty. The number sold last year is sixty-nine. Those now for sale are valued at $15,000.

The expenditures for 1869 were	$12,338.63
Receipts in 1869	7,930.00
Excess of expenditures over receipts	$4,408.63
Total appropriation in 1869	$12,750.00
" expenditure	12,359.13
Balance unexpended	$390.87

It is thought that an appropriation of $8,000 will be sufficient for the present year.

Coolidge Avenue, by which the Cemetery is approached from Mt. Auburn Street, has been recently graded by the city, and is now in excellent condition. A sidewalk has also been constructed on the easterly border of this avenue, which renders access to the Cemetery much more easy and convenient than formerly. The Commissioners make the suggestion, in which I concur, that shade-trees be planted upon the avenue, thus adding much to the comfort and convenience of those who visit the grounds.

The number of interments in 1869 was . .	347
The whole number of interments is . . .	6,468

STREETS AND SIDEWALKS.

A year ago, my predecessor in this place was constrained to admit that the streets of Cambridge were not in their usual good condition. Thanks, however, to the City Council for their liberal appropriation, and to the judicious expenditure of that appropriation, the state of affairs then existing has been changed to one very much better. As a general thing, our streets are now in good order, and very much improved from their condition of a few years ago. The appropriation last year was $97,000, all but $433 of which was expended. But of this a considerable part was for edge-stones and sidewalks, the assessments upon abutters for which amount to about $12,000, which has returned or will return to the city treasury. This leaves about $85,000 really expended by the city upon the streets and sidewalks in 1869. In the opinion of the Superintendent of Streets, $100,000 will be required during the coming year for this department; and I recommend an appropriation of that amount.

Within a few months, a brick sidewalk has been laid on the northerly side of Main Street, from Harvard Square to West Boston Bridge. For this great improvement, the City Government of 1869 merits the thanks of the whole community. An order was also passed, requiring the Superintendent to lay a similar walk on each side of Prospect Street, from Main to Cambridge Street. A portion only of this has been finished, but the remainder will be completed as soon as

the weather will permit. I respectfully recommend that a brick sidewalk be constructed this year on Cambridge Street, from Sixth to Hampshire Street. This will facilitate communication between the Third Ward and other parts of the city, and will prove a very great accommodation to a vast number of persons. I also recommend the continuance of the policy, already commenced, of laying brick walks in such other of the principal streets (among which I will mention North Avenue, from Harvard Square to railroad bridge) as the City Council may designate. The time has fully come when our sidewalks should be placed in a very different condition from that which now exists. In a very humble way we may emulate the example of the emperor who "found Rome of mud but left it of marble." We find many of our sidewalks of mud: let us leave them of brick.

A very considerable amount of paving ought to be done during the coming season. Main Street should be paved with trap-rock throughout its entire length, in the course of three or five years, and a beginning should be made at once. A similar commencement ought to be made on Cambridge Street, and perhaps on one or two other of the main avenues. It is thought that Bridge Street, in Ward Three, will need paving throughout; whether the whole or a part of this should be done this year, it is for you to determine.

The gravel owned by the city, in Belmont, is so far distant from many parts of the city where gravel is needed for the streets, that it is thought desirable to obtain a nearer supply. Extensive gravel banks exist

near the foot of Magazine Street, in the Fourth Ward, which might be taken by the city under the authority of the Act of 1869, chap. 237, which permits cities and towns to take gravel for the construction and repairs of streets, paying therefor suitable damages: the land reverting to the owner after the gravel is removed. The gravel in this vicinity is of excellent quality, and much more suitable for streets upon which there is a great deal of travel than that at Belmont, which is quite sandy, and better fitted for cross streets. The Superintendent of Streets recommends the leasing or purchase by the city of a wharf at the Lower Port, whereon may be landed material for paving, edge-stones, &c. It is his belief that a great saving can be made in this way by purchasing such materials in large quantities, which cannot well be done unless provision is made for storing the same, as suggested. The plan seems to me one well worth considering.

By an Act of the General Court, the city has now authority to cause to be filled to a proper grade the territory lying south-west of Broadway, north of Main Street, and east of Moore and Gilpin Streets. In my judgment this ought to be done as speedily as possible, and I commend the subject to your early attention. It may be well to commence the present year with the triangular lot bounded by Main and Harvard Streets and the Grand Junction Railroad. The strong probabilities are that by filling this land the city treasury will not be in the slightest degree injuriously affected, while the advantages will be very great. For the health

of our citizens, as well as for the general improvement of the appearance of this locality, it seems desirable that the improvement should be made. I would suggest that a certain number of shade-trees be planted each year on the borders of such streets as are not so favored. At a comparatively trifling expense our whole city may at no distant period thus be rendered much more attractive. I would also recommend that the buildings on nearly all our streets be re-numbered. At present there seems to be a great confusion and no system in this matter. It might be well, perhaps, to provide by ordinance for the removal by abutters of snow from the sidewalks. After a heavy fall of snow locomotion is very difficult in many parts of the city, and this continues, sometimes, for weeks. In some of the remote parts of the city — for instance that sometimes called "Dublin" — the sidewalks are in bad condition. If brick walks cannot be laid in those sections at present, *some* remedy can surely be found for the now existing condition of things.

I deem it proper here to allude to a proposed connection of the Lexington and Arlington Railroad with the Lowell Railroad, the surveys for which indicate a crossing of North Avenue, at some point between the old Camp Cameron ground and Alewife Brook. This most important thoroughfare is thronged with travel day and night, and a crossing at grade would be a serious inconvenience, danger, and detriment, while there is no reason of public benefit to be derived from its construction in our limits, to warrant the granting of a location as

indicated, and I would suggest that our members in the Legislature be requested to resist such a grant being made.

SEWERS.

The City Council of 1869 wisely removed the construction of sewers from the care of the Superintendent of Streets and Drains, — who has quite enough to do in other directions, — and placed it in charge of the City Engineer. Formerly our drainage, such as it was, was managed upon no general plan, and in a very injudicious way. In recent years, however, this has been wholly changed, and we are now in a fair way of soon obtaining a complete and thorough drainage of all our territory upon wise and scientific principles. The appropriation last year for sewers was $75,000. Of this was expended not quite $36,000. The balance — some $39,000 — was transferred to other appropriations. On the 30th of March last a contract was made with Mr. Charles Linehan for the building of the Oxford-Street sewer, so called, at an expense of nearly $44,000. By the terms of the contract the work was to be completed on the first day of November last, but on the thirtieth day of that month only 1,412 feet had been completed, or a little more than one-quarter of the whole. Some unexpected obstacles have been encountered in the prosecution of the work, but it is to be hoped that the work will be more vigorously prosecuted in the future, and that it will be quite finished at the close of the coming season. There has been paid to the contractor $9,786.05, leaving about $33,000 to be provided for in

this year's appropriations. It is thought that $75,000, in all, will be required for this department during the year now commenced. The total length of sewer built in 1869 was 12,282 feet. In addition to this there have been constructed thirty-six catch-basins, or cesspools, five man-holes, and two tide-gates.

There appears to be a necessity for a sewer in North Avenue, from the bridge to Alewife Brook, having its outlet at the brook. A great saving in repairs upon that avenue would be made by the construction of such a sewer, thus rendering it a matter of public as well as private benefit. The general improvement of the side-walks cannot be made until proper drainage is secured. The accumulation of surface water on this street is a serious injury to it, and it ought not to be permitted much longer.

BRIDGES.

I now come to a matter which may prove of more importance in its financial bearings than any other that you will have to consider during the present year. By an Act of the last Legislature, — approved by the Governor, May 26, 1869, — "the city of Cambridge is authorized and required, forthwith, to cause to be made, at the expense of said city, in lieu of the existing draws in the West Boston Bridge and the Canal or Craigie Bridge over Charles River, and the Prison Point Bridge over Millers' River, a draw in each of said bridges with a clear passage-way of forty-four feet in width, in such position and of such form and construction, and with such changes in the draw-piers and

bridges connected with said draws, as may become necessary or advisable in removing old and in building and maintaining new draws, as the Harbor Commissioners may determine," &c., &c. The second section places half the expense of the new draw in Prison Point Bridge upon the city of Charlestown.

By the terms of the Act, it will be perceived, we are required to do this *forthwith*, and under the direction of the Harbor Commissioners. The City Council of last year were unable to commence the work before the cold weather came on, and they accepted the Report of the Committee on Roads and Bridges, who recommended the reference of the whole matter to the City Council of 1870. This undesirable legacy has come down to us, and it is now on our hands. I do not understand that the Harbor Commissioners have, in any formal way, indicated precisely what their demands will be (excepting so far as West Boston Bridge is concerned); but enough is known of their views to make it clear that if those views are fully carried out the expense to the City of Cambridge will amount to nearly $200,000. It was intended, last year, to rebuild the draw on West Boston Bridge, at an expense of about $55,000, but it was not supposed that the rebuilding of the Craigie Bridge draw or that on Prison Point Bridge would be necessary for many years to come. The Legislature, however, has decided otherwise, and we have only to apply for a modification or repeal of the Act of 1869, or to proceed with the work as soon as practicable.

I would recommend that a petition be presented to the Legislature, now soon to assemble, asking for relief from this great burden which has thus, unfortunately, been placed upon us. I recommend, also, that a committee of the City Council be appointed to take charge of this, and all other matters which may come before the General Court, in which the city may have an interest. I further recommend that the Honorable Senator from this district, and the representatives from this city be requested to use their utmost endeavors to bring about a modification of the Act to which reference has been made. This is a matter to which I shall personally, if so authorized and instructed, give my earliest and most earnest attention. Whatever may be the result of application — if one is made — to the Legislature, it is quite certain that a new draw of suitable width should be constructed, this year, on West Boston Bridge. The present structure is discreditable to Cambridge, and it ought "forthwith" to be replaced by one of a better and more convenient kind.

The appropriation for bridges last year was $40,000. At the time the appropriations were made it was thought that a new draw in West Boston Bridge might be built for about $25,000. Afterwards it was ascertained that $50,000 or more would be required, and finally nothing was done in reference to it. The expenditures were nearly $10,000 for ordinary repairs, and the balance was transferred to other appropriations. It is thought that at least $15,000 will be required this year for ordinary repairs, as the Canal Bridge, especially, needs consid-

erable paving. We have now a large part of six draw-bridges to maintain, with an excellent prospect of another — the Brookline — to come. If the draws of all these are to be widened, $300,000 will not be much more than enough to cover the expense.

PUBLIC SQUARES.

It is quite unnecessary to set forth here the advantages of public squares or parks. The attention of the whole community has recently been attracted to the subject by the hearings (fully reported in the public prints) before a committee of the Boston City Council. Cambridge has always been deficient in this respect. The more westerly part of the city is tolerably well provided for, but the Common in the First Ward might and ought to be made much more attractive than it ever has been as yet. When the monument is finished, and the adjacent ground graded and beautified, the propriety of improving the remainder of the Common will be more apparent. The whole city will demand that this spot — famous in our Revolutionary annals, and soon to be consecrated anew by a memorial of admiration and gratitude — shall be made in all respects worthy of its past history and its future use.

A new Park ought to be laid out in the Third Ward. By the purchase of several acres of the low land between the Grand Junction Railroad and the settled portions of the ward, by filling this territory up to a proper grade, by laying out a portion of it for a park and for streets, and the remainder for house-lots, by embellishing these

streets and this park properly and tastefully, the city would reap vast advantages in the health, comfort, and happiness of its citizens, while little or no expense would in the end be incurred. Some plan similar to this will, I trust, be adopted.

In the Second Ward, the Square known as the "Old Burying-ground" has recently been somewhat improved by the erection of an iron fence on two of its sides, and by the laying out of foot-paths, and the planting of trees; but it is not yet what it should be. Bounded on the south and west by backyards and wood-sheds, any thing but a delightful prospect is presented to the eye. I would recommend the removal of the buildings standing on Harvard and Prospect Streets, so as to complete the Square.

In my opinion, but a very short time will elapse before the increase of taxes on the property in the immediate vicinity will more than pay the interest on the cost of making the improvements, and thus all our citizens, the poor as well as the rich, will have the benefits of a very beautiful park, without real cost to the city. Such has been the experience of other cities in similar cases, and particularly so of Boston, in reference to the Public Garden. Land in that vicinity has been largely enhanced by the improvements made in that charming park, which, for beauty, is not surpassed either in this country or in Europe. Let me respectfully urge you carefully to consider this matter, believing as I do that your convictions will accord with mine, after due examination and investigation.

SOLDIERS' MONUMENT.

Early last year the City Council appointed a committee, with full power to erect a suitable monument on the Common in the First Ward, in commemoration of the deeds of the men of Cambridge who laid down their lives in the recent great struggle for Freedom and the Union. The committee proceeded to obtain designs for such a monument, and to take other measures for the early commencement, vigorous prosecution, and prompt completion of the work. A contract was made for a stone foundation, which was duly fulfilled. Another agreement was entered into for the stone-work, above the foundation, and still another for a granite statue of a soldier, and for nine bronze tablets whereon will appear the names of the deceased heroes, together with a suitable dedicatory inscription.

The corner-stone of the structure was laid, with appropriate ceremonies, on the 17th of June, 1869, and it was fully expected that the whole work would be completed on the first day of last November. Owing, however, to vexatious delays from various causes it was found that it would be impossible to finish the monument at so early a day, and the committee were reluctantly constrained to agree to a modification of the contracts, so that the date now fixed for the completion is June 15, 1870. At that time it is considered certain that every thing will be in readiness for the dedicatory services, which will take place on the anniversary of the Battle of Bunker's Hill.

The total cost of the monument, including foundation, fencing, grading, &c., is estimated at about $30,000. Of this, something more than $20,000 must be provided for in the appropriation for this year. I know that it has been, and is, a source of much regret to my predecessor that this work could not have been finished under the able and skilful and earnest supervision of himself and of those who, with him, had the honor of initiating it. With him and with them it has been a labor of love, and we must all join with them in the regret that they were unable, from causes beyond their control, to complete the work. It will be our duty and pleasure to carry out their plans and their designs. In this patriotic work we may, perhaps, still have their assistance and advice; and, when the memorial is completed, we shall render to them the great praise which is their due for thus expressing in enduring granite the sense of gratitude that we all feel toward those who perished in a most glorious cause.

POLICE.

Such, unfortunately, are the evils and disorders engendered by the congregation of large bodies of human beings in cities, that a well-disciplined, active, and efficient police force is indispensable for the protection of persons and property. Such a force we now have in Cambridge. Most, if not all, of the men composing this department of the public service are capable, faithful, and diligent in the performance of their duties. If there are any exceptions to this rule, they are in the direction,

not of incapacity, but of indolence and inattention. These faults are easily corrected; and corrected they must be, if a continuance of employment is expected.

During the year just ended, the number of persons arrested for the commission of crimes and misdemeanors has slightly decreased from that of the previous year. There has, however, been an increase in the number of persons — sometimes called "tramps" — applying for lodgings. These individuals have been accommodated as well as the nature of the case would allow. They are generally very filthy, and of exceedingly loathsome and disagreeable habits, and it has been found a very difficult matter to keep the cells of the station-houses in a tolerable state of cleanliness after the repeated occupation of them by such persons.

The good order which has prevailed within our borders for the last twelve months has made the labors of the force comparatively light. Still there is enough, in the way of duty, not only for the present number of men (32), but for an increase in that number. Some of the "beats" are unreasonably large; so much so as to render it quite impossible that in cases of emergency, which are always liable to arise, proper protection can be afforded. I therefore earnestly recommend an addition of at least five men to the force now in service, believing such addition to be required for the public good.

The station-house in the basement of the City-Hall building is not a proper place for the use of the officers on duty, for the confinement of prisoners, or for the accommodation of the wretched men who nightly apply

for lodgings. Damp and unwholesome to a degree dangerous not only to health, but to life itself, this underground apartment is highly discreditable to our city. A remedy should at once be found and applied. A new and commodious station-house should be erected at the earliest possible moment. The proper location for such a building it is for the City Council to determine; but I would respectfully suggest that it be placed on or near the northerly side of Main Street, and between Norfolk and Inman Streets. In connection with the station-house, I would recommend that there be provided a suitable ward-room for the accommodation of the citizens residing in the Second Ward, who are now put to much inconvenience whenever they are called upon to exercise the right of voting.

The station-house in the Third Ward is not such as is needed in that part of the city. Better accommodation ought to be furnished at an early day. The Police-Court Room in the First Ward is altogether too small for the use to which it is put. Sometimes crowded almost to suffocation, this small apartment is plainly not such as Cambridge ought to provide for the accommodation of the court, the counsel, the witnesses, and even the unfortunate prisoners. It is thought that this room can be made sufficiently large, without the necessity of purchasing more land, and at a very reasonable expense. I commend the subject to your early attention.

FIRE DEPARTMENT.

This department fully maintains its reputation for promptness, efficiency, and general good conduct. Di-

vested of the "rowdy" element which, in former years, disgraced many similar organizations, it makes a *business*, and not a pastime, of putting out fires. There is a spirit of emulation and competition in the department; but the fireman of to-day battles with the devouring element, and not with his fellow-firemen, and his first wish is, *not* that conflagrations should be kindled, and make good progress, but that they should be speedily extinguished.

The apparatus now in service in this city consists of four steamers, one hand-engine, and one hook-and-ladder carriage. These are all in excellent condition, and every way fit for service. Another steamer, however, is needed in the Second District. When that want is supplied, the hand-engine — that last relic of by-gone days — may be dispensed with. This steamer should be so located as to afford the best protection to that large and much exposed section of our city called Cambridgeport — where more than half the fires usually occur — as well as to that important manufacturing section, the Third Ward. In my opinion, this addition to the apparatus of the department should be made as soon as possible. If the hand-engine No. 4 is dispensed with, and the company disbanded, I would renew the recommendation of my predecessor, that a hose company and apparatus be substituted therefor. With these additions and changes, our city will be reasonably protected from danger by fire.

The amount of property destroyed by fire in 1869 was extraordinarily large, being estimated at $264,423. The

insurance amounted to $139,473. At two fires in the Third Ward, in March and September, $217,000 worth of property were consumed. The number of alarms last year was 46. The number of fires was 33.

All the engine-houses are believed to be in good order, and suitable for the use to which they are put, excepting that in the Third Ward. From personal inspection of this house, and from information derived from sundry persons who are familiar with the premises, I have no hesitation in saying that it is quite unfit and unsuitable for such purposes. I therefore recommend that immediate steps be taken to provide better accommodations for the company and the apparatus. If the present structure and land could be disposed of, and a building erected on some central spot, — combining a new engine-house, police station, and ward-room, — it would probably prove a convenient and inexpensive method of meeting the necessity which now exists for the proper accommodation of all concerned. In this case either the present ward-room building and land might be sold, or the building wholly devoted to school purposes, — the upper portion being now so used.

The Fire-alarm Telegraph, which has only been in operation since the third day of September last, has already demonstrated its great value and usefulness. Fifteen alarms of fire have been given by it with the utmost accuracy and promptness. Almost the exact location of a fire is given to the department, saving thereby much time, which, in former years, was wasted in ascertaining it. The engines are thus enabled to be at work in the

early stages of a conflagration, when they can generally be most effective. The wires are now attached to only one church bell, — the Methodist, in Ward Two, — but they should be connected with at least one bell in each ward; they should also be extended to the water works, at Fresh Pond, so that the engineer may give the department all the water that may be required in case of fire. Two or three alarm boxes are needed in the southerly part of the Third Ward, and some other small additions are needed; for information regarding which I refer you to the Report of the Chief Engineer.

Our department is relatively very expensive, compared with those of other cities. It will be our duty carefully to examine, and see wherein the current expense of it can be judiciously pruned without impairing its efficiency. An increase of pay has been asked for by some of the members of the companies. Labor is rarely overpaid, and the city should deal liberally with all its employés.

ALMSHOUSE.

In every civilized community the duty of providing food, shelter, and clothing for the poor and helpless is fully recognized. That no human being shall be allowed to suffer the pangs of starvation is no less a dictate of the human heart than it is a legal obligation resting upon municipalities. And this natural impulse of generous sympathy and prompt relief is freely exercised everywhere. In a thousand ways the wolf of poverty is chased from the door of those who would otherwise prove his victims. Private benevolence is constantly at work

relieving the necessities of those whom misfortune has overtaken and whose voyage of life has terminated in disastrous wreck. Public charity, too, comes to the rescue of the helpless and the friendless, and thus in every town and city of the land there is established some means of shelter and some provision for food. Tender care, where care is needed; medicines for the sick; warmth, comfort, and plenty for the satisfaction of all bodily wants, — these are fully provided at the public expense.

Referring you to the Report of the Overseers of the Poor for the particulars in regard to our Almshouse, I will merely allude here to one or two items of information therein contained. The number of paupers has gradually decreased during the past three years. In 1867, the number was 88; in 1868, it was 76; and in 1869, it was 66. This decrease is supposed to be owing to the increased demand for labor during the period since the war, whereby many persons have obtained employment, and have consequently been self-supporting. If the present depressed condition of business continues, we may expect some increase in the number of inmates of the house.

The whole amount expended for the year was . .		$36,719.93
Income from the farm, ledge, &c. . .	$18,965.20	
Bills due, but not yet collected . . .	5,326.16	
		24,291.36
		$12,428.57
Expense over income in 1868		10,229.51
Increase in 1869		$2,199.06

While the expenses have thus been increased by about $2,200 during the past year, the personal property has been also increased to the amount of $4,133.50.

The management of the house and grounds has been satisfactory. In the course of the year, very considerable improvements were made in various parts of the establishment. Hot and cold water are now carried into the upper parts of the building, and conveniences for bathing are furnished for persons of either sex. The house is in complete repair, and is in every way fitted for the purpose that it was intended to serve. It has been thought, however, by the Overseers of former years, that the building was much larger than was necessary for the accommodation of the limited number of inmates. The Overseers of last year concur in that opinion, and recommend that the house and a portion of the land be sold, and a smaller house erected. It is for the City Council to take such action as may be deemed judicious in this matter. At present I am not convinced that it would be good policy for the city to adopt the course recommended by the Board of Overseers. Further investigation and thought may, perhaps, produce a change in my opinions. If so, I shall take an early opportunity of again bringing the subject to your notice.

CONCLUSION.

Gentlemen of the City Council, —

Standing now, as it were, upon the threshold of the new year, and glancing at the work which we have to do, I feel that we need no unusual incentives to the per-

formance of duty. The oaths of fidelity which we have just taken; our own convictions of right; our regard for the stainless reputation which Cambridge has always borne, and which, in some measure, is now confided to us; our knowledge of the just and reasonable expectations of our constituents, — these are incentives quite sufficient. Containing all the elements of growth, prosperity, wealth, comfort, and beauty, our city seems destined to take and maintain a position second only to that of the metropolis of New England. With a history wherein the workings of Piety, Philanthropy, Learning, Patriotism, and Thrift are plainly seen to be harmoniously blended for the building up of a great community; with a good name, known not only in our own country, but in foreign lands; with a population intelligent, enterprising, energetic, and moral, — with such a history, with such a name, and with such a population, we have every reason to be proud of the past and confident of the future. That our administration of municipal concerns may be worthy of such a city is ample inducement for every exertion. And here let me say, that, however signal may be my own failure, from any cause, I have the satisfaction of knowing that all public interests are safe in your hands. Whatever I may be unable to accomplish for the public welfare, will yet be secured by those who are here associated with me in the management of public affairs. I may add, however, that if unremitting diligence, constant industry, and faithful devotion can in any degree compensate for the lack of natural gifts or large experience, then that diligence,

that industry, and that devotion shall be brought to the performance of the high and difficult duties which will devolve upon me. With your cordial co-operation and assistance, — which I am sure of, — I shall endeavor to meet the proper demands of the citizens of Cambridge and to merit their approbation.

HAMLIN R. HARDING.

CAMBRIDGE, Jan. 3, 1870.

NOTE. — A more careful and thorough investigation of the proposed connection of the Lexington and Arlington Railroad with the Boston and Lowell Railroad, has convinced me that the city should favor rather than oppose the enterprise. Assurances have been received from the parties in interest that the crossing on North Avenue shall be so protected as to secure travellers from danger.

H. R. H.

JAN. 26, 1870.

ANNUAL REPORT

OF

THE COMMITTEE ON FINANCE.

The Joint Standing Committee on Finance herewith submit their Annual Report to the City Council.

APPROPRIATIONS.

The whole amount appropriated by the regular annual bill of supplies was $782,050. To this was subsequently added $25,000 for the Department of Reservoirs and Drains, for which a city debt was authorized. This debt was not created, but the money was furnished from other sources. Included in the total sum appropriated was $100,000 for the extension of the Water Works. This was provided for by the sale of Water Bonds: an issue of which was ordered to the extent of $112,000; the excess of bonds, $12,000, over the amount set apart for "Extension," being to supply a deficiency in bonds issued in the year 1868, the city having advanced the funds to meet the expense of extension during that year to the amount of the excess mentioned. It is the settled policy of the City Government to have the amount of Water Bonds issued correspond exactly to the cost of the Works. In the yearly published statement of the City Debt, as furnished by the Treasurer, the public learns the cost of the Works by the amount of Water Bonds there set down.

Total of Appropriations for 1869	$807,050.00
" " Expenditures	777.940.92
Balance	$29,109.08

Your Committee recommend that, for the future, in making up the Annual Supply Bill, an appropriation be made for "Uncollected Taxes." It so happens that a considerable portion of the taxes levied are not paid during the year in which they are ordered. This delay causes embarrassment, and necessitates increased temporary loans to supply the deficiency. We treat the tax levy as quick assets; and the City Council appropriates accordingly. But the Treasury does not realize. In the year 1868, when the accounts were made up, more than $31,000 of the year's taxes were unpaid. The present year the deficiency is upwards of $43,000. To remedy the difficulty, your Committee recommend an appropriation each year for unpaid taxes. If this is done the Treasury will obtain the sum called for, without adding at all to the burden of the tax-payer. The first appropriation will solve the whole difficulty. The amount of delinquent taxes at the close of the financial year is always reckoned as a part of the "Ways and Means" for the year that is to follow. And if in any year the entire tax is paid (which has never yet been done), the sum set apart, as we now recommend, would lapse into the Treasury, and relieve by so much the amount to be raised thereafter.

RECEIPTS AND EXPENDITURES.

The total of Receipts at the Treasury for the year, including temporary loans, was	$1,305,243.19
Balance on hand, Dec. 1, 1868	94,713.67
	$1,399,956.86
Total of Expenditures	1,336,618.80
Balance on hand, Dec. 1, 1869	$63,338.06

The estimated receipts for the year, it gives your Committee pleasure to state, have exceeded their anticipations. In several of the more important items, such as the Cemetery, Almshouse, and Water Works, the Treasury has received more, by several thousand dollars, than was relied upon, in considering the sources of revenue at the commencement of the year. Important additions

have been made to the permanent property of the city, — a statement of which will be found in its proper place in this Report.

SINKING FUND OF THE WATER WORKS.

The Sinking Fund of the Water Works on the 30th of June, 1868, as appears by the books, was .	$24,100.86
Added during the year	3,625.58
Amount of the Fund, June 30, 1869	$27,726.44

This Fund is invested as follows: —

In Cambridge City Bonds	$24,000.00
In Temporary Loan to the City	3,726.44
	$27,726.44

For a detailed statement of the formation of this Fund, your Committee refer to a document prepared by the Trustees, in answer to a call of the City Council, which is published as a Supplement to this Report.* It will be seen that the additions to the Fund in the years 1868 and 1869 have not equalled the requirements of the statute authorizing the city to purchase and extend the Works; namely, one per centum of the entire cost. But, as the accumulations of the four years that the city has been in possession exceed the demands of the law by more than forty-five hundred dollars, we may say that the purpose of the law has been substantially complied with. We ask attention to the following statement of the annual receipts for Water Rates and Supplies, as justifying the action of our predecessors, who carried through the measures that resulted in the acquisition of these Works: —

Receipts for Water Rates and supplies for the year					1866	$47,855.48
"	"	"	"	"	1867	56,056.57
"	"	"	"	"	1868	65,040.66
"	"	"	"	"	1869	80,434.56

For the year ending June 30, 1870, we confidently believe the receipts will exceed a hundred thousand dollars.

* See page 44.

ANALYSIS OF THE CITY DEBT.

Amount of Permanent City Debt, Dec. 1, 1868, exclusive of the Dowse Institute and Sanders Temperance Funds	$1,168,400.00
Add Water Bonds issued in 1869	112,000.00
	$1,280,400.00
Deduct Sinking Fund of Water Works	27,726.44
Total Permanent Debt, Dec. 1, 1869	$1,252,673.56

The debt may be classified thus: —

Trustees of Daniel White Charity, payable on demand at 6 per cent. interest	$5,000.00
Cambridge City Bonds, so called, issued principally for recruiting purposes, during the late war, and bearing 5 per cent. interest	*406,000.00
Cambridge Water Bonds, issued to defray the expense of purchasing and extending the Water Works, bearing 6 per cent. interest	828,400.00
City Notes, held by Lowell Institution for Savings, maturing in 1870 and 1871, — interest $5\frac{1}{2}$ per cent. on $11,000, and $5\frac{3}{4}$ per cent. on $30,000	†41,000.00
	$1,280,400.00

In addition we have the Dowse Fund, $10,000, and the Sanders Temperance Fund, $10,000, invested in the City's notes, — the interest on which — $600 each — it is required shall be yearly appropriated to the objects designated. So long as this is done the city retains the principal.

LIABILITIES AND ASSETS, DEC. 1, 1869.

The liabilities of the Treasury are: —

State and County Tax for 1869	$88,682.50
Interest accrued, but not due	2,314.00
Amount carried forward	$90,996.50

* Of this amount $150,000 is payable, principal and interest, in gold.

† Three thousand dollars of this amount matures Nov. 6, 1870.

Amount brought forward	$90,996.50
Bills approved, but not paid	1,031.69
Bank Tax due the Commonwealth	622.22
	$92,650.41

To offset which we have as assets: —

Balance in Treasury	$63,338.06
Due from State, under Corporation Tax Act . .	28,548.70
" " " Militia Bounty	768.00
" " " Aid to Soldiers	18,625.10
" " " Armory Rent	100.00
" " " Quartermaster's Supplies . . .	960.00
" " " Sundry Military Accounts . . .	111.20
" " County, Rent of Police Court Room .	350.00
Drain and Sidewalk Assessments	2,736.21
Uncollected Taxes	*57,127.68
	$172,664.95
Deduct liabilities, as above	92,650.41
Excess of Assets, Dec. 1, 1869	$80,014.54

INCREASE OF PERMANENT PROPERTY.

During the year the following additions have been made to the permanent property of the city: —

For New School House and Land	$27,827.37
" Telegraphic Alarm	10,000.00
" Extension of Water Works	99,313.51
Paid to Sinking Fund of Water Works	2,491.74
Land and Engine House in Ward V.	15,770.71
	$155,403.33
Deduct for Water Bonds issued	112,000.00
Net gain	$43,403.33

* This item shows the total of unpaid taxes, some portion of which has been standing for many years. We think that we are justified in saying that not more than three-fourths of the amount will ever be realized, and a deduction should be made accordingly.

UNCOLLECTED TAXES AND OTHER ASSESSMENTS.

The taxes assessed for the year 1869 were : —

For City purposes	$478,136.10	
State Tax	63,025.00	
County Tax	25,657.50	
		$566,818.60
Of the above tax the amount collected is	$493,151.70	
Discounted	19,897.49	
Abated	10,672.66	
		523,721.85
Balance uncollected		$43,096.75

Of the tax of 1868, there remained uncollected, Dec. 1, 1868		31,448.92
Of that amount there has been collected	$23,092.77	
Abated	1,720.39	
Discounted	.60	
		24,813.76
Balance uncollected		$6,635.16

Of the tax of 1867, there remained uncollected, Dec. 1, 1868		6,892.48
Of that amount there has been collected	$2,537.18	
Abated	664.56	
		3,201.74
Balance uncollected		$3,690.74

Of the tax of 1866, there remained uncollected, Dec. 1, 1868	3,126.39
Of that amount there has been collected	19.20
Balance uncollected	$3,107.19

Of the taxes of 1864 and 1865, there remained uncollected, Dec. 1, 1868	$878.40
Of that amount there has been collected	280.56
Balance uncollected	$597.84

The amount of assessments to defray the expense of constructing Sidewalks, committed to the Treasurer in 1869, is	4,980.66
Of that amount there has been collected	3,032.24
Balance uncollected	$1,948.42

The amount of Sidewalk Assessments uncollected, Dec. 1, 1868, was	219.32

All of which has been collected.

The amount of Drain Assessments, committed to the Treasurer in 1869, was		4,496.61
Of that amount there has been collected	$4,224.23	
Abated	75.60	
		4,299.83
Balance uncollected		$196.78

The amount of Drain Assessments uncollected, Dec. 1, 1868, was	591.01

All of which remains uncollected.

POLLS AND VALUATION OF ESTATES.

The valuation of Estates and number of Polls, as appears by the books of the Assessors, on the 1st of May last, are shown by the following table. The amount does not include Corporation Stocks owned by our citizens, the value of which is believed to be about two millions of dollars : —

District	Ward.	No. of Polls	Personal Estate.	Real Estate.	Total.	No. of Dwellings.
I.	1	1448	$5,018,500	$7,694,000	$12,712,500	985
II.	2	2377	3,759,500	6,661,200	10,420,700	1549
III.	3	2171	1,777,200	4,205,800	5,983,000	1054
II.	4	2098	1,582,800	4,624,600	6,207,400	1376
I.	5	839	1,065,100	2,822,200	3,887,300	506
Total . .		8933	$13,203,100	$26,007,800	$39,210,900	5470

The rate of taxation was $14.00 per thousand, with the usual discount of four per cent. if paid on or before the 10th of October.

The books and accounts of the Treasurer have been examined by a sub-committee, whose report is hereto appended; together with the statement of the Auditor, representing in detail the appropriations and expenditures, and the Treasurer's account in full.

All of which is respectfully submitted.

CHAS. H. SAUNDERS,
HENRY W. MUZZEY,
JOHN S. MARCH,
D. R. SORTWELL,
JOSEPH H. CONVERSE,
ORRIN HALL,
GEORGE W. HOMER,
SEYMOUR B. SNOW,
W. B. HASTINGS,

Committee on Finance.

REPORT

OF THE

TRUSTEES OF THE SINKING FUND OF THE CAMBRIDGE WATER WORKS.

The undersigned, in compliance with the request of the City Council, herewith submit a detailed statement of the formation and present state of the Sinking Fund of the Cambridge Water Works, with the date and amount of each addition, taken from the books of the City Treasurer as made up to June 30, 1869.

It appears that the Water Works were purchased by the city, April 28, 1865; and that the Sinking Fund account was first opened for the year ending June 30, 1866, as follows; viz.: —

June 30, 1866.

Received of the Water Registrar, for rates and supplies, &c., for the year ending this day	$47,855.48	
Less amount of expense for care and repair during the same period . .	41,929.76	
Balance of earnings over expense	$5,925.72	
Interest on cash balances in Treasury during the year	442.05	
Amount passed to the credit of said Fund, June 30, 1866		$6,367.77

June 30, 1867.

Received of the Water Registrar for rates and supplies, &c., for the year ending this day	$56,056.57	

Amounts brought forward . .		$56,056.57	$6,367.77
Less amount of expense for care and repair during the same period . .	$44,030.96		
Discount on bonds sold during the year 1866	1,067.21		
		45,098.17	
Balance of earnings over expense		$10,958.40	
Interest on cash balances in Treasury during the year		1,227.66	
One year's interest on Fund $6,367.77 to this date		382.06	
Amount passed to the credit of said Fund, June 30, 1867			$12,568.12

June 30, 1868.

Received of the Water Registrar, for rates and supplies, &c., for the year ending this day		$65,040.66	
Interest on cash balances during the year		3,215.58	
		$68,256.24	
Less amount of expense for care and repair during the same period . .	$61,395.39		
Discount on bonds sold during the year 1867	2,809.11		
		64,204.50	
Balance of earnings over expense (Interest on $382.06, see below.)		$4,051.74	
One year's interest on Fund to this date $18,553.83		1,113.23	
		$5,164.97	
Amount carried forward			$18,935.89

Amount brought forward		$18,935.89
Amount passed to the credit of said Fund, June 30, 1868		5,164.97
Amount of Fund, June 30, 1868, as per account		$24,100.86

June 30, 1869.

Received of the Water Registrar, for rates and supplies, &c., for the year ending this day	$80,434.56	
Less amount of expense for care and repairs, &c., and interest on bonds during the same period	77,942.82	
Balance of earnings over expense	$2,491.74	
Interest on $382.06 for one year, $22.92; and interest on $22.92 for one year, $1.38 (Tem. Loan) .	24.30	
Interest on bonds $720.00		
Interest on Temporary Loan 389.54		
	1,109.54	
Amount passed to the credit of said Fund, June 30, 1869		3,625.58
Amount of Sinking Fund, as per Treasurer's books, June 30, 1869		$27,726.44
Amount of accrued interest on bonds to June 30, payable Oct. 1		360.00
Actual value of Sinking Fund, June 30, 1869		$28,086.44

June 30, 1869.

Said Fund is invested as follows; viz.: —

Bonds of the City of Cambridge	$24,000.00	
Temporary Loan of the city .	3,726.44	
		$27,726.44

By the statute it is required that a sum not less than one per cent. of the cost of the Works shall be added annually to this Fund. Under this provision, the estimated amount required from

April 30, 1865, to June 30, 1869, including interest upon the same, is $20,902.63

Value of Sinking Fund, June 30, 1869 . . 28,086.44

Excess of Fund over statute requirements . 7,183.81

Amount required annually is as follows; viz.: —

1866.	One per cent. on the cost is				$3,019.51;	Amt. passed to Fund					$5,925.72
1867.	,,	,,	,,	,,	,,	3,838.54;	,,	,,	,,	,,	10,958.40
1868.	,,	,,	,,	,,	,,	5,322.73;	,,	,,	,,	,,	4,051.74
1869.	,,	,,	,,	,,	,,	6,742.48;	,,	,,	,,	,,	2,491.74
						$18,923.26					$23,427.60
											18,923.26
											$4,504.34

Excess over one per cent. . . . . .

From the above it will be seen, that the amount added to this Fund for the past two years has not been equal to the amount named in the statute. The sums added in 1866 and 1867 exceeded the percentage required. The heavy outlay for the last two years has not permitted the passing of the amount of one per cent. to the Fund, with the present water rates. In 1868 the sum of $175,000 was expended, and in 1869 the sum of $112,000, for the extension of the Works: making an increase of interest to be paid from the receipts of upwards of $17,000 annually, which has been done with the result above stated. The Works are now completed, excepting the yearly extension of pipes; which expense will for the future be greatly reduced. Probably not more than $50,000 will be required for 1870. The earnings will then show immediately an excess of the amount named in the statute, which will more than make up any present deficiency for the past two years. The rates have been revised by the City Council the present year, and meters are being introduced into the large establishments of consumers; showing, in every case, an increased gain of receipts, which, we believe, will in the future allow an increase yearly to be added to this fund far beyond the amount specified.

All of which is respectfully submitted.

CHAS. H. SAUNDERS,
HENRY W. MUZZEY,
JOSEPH WHITNEY,
} *Trustees of the Sinking Fund of Water Works.*

CAMBRIDGE, *Nov.* 30, 1869.

REPORT

CONCERNING

THE ACCOUNTS OF THE TREASURER.

In Committee on Finance, *Dec.* 29, 1869.

The Sub-committee appointed to examine the accounts of the City Treasurer for the financial year ending Nov. 30, 1869, have attended to the duty, and submit the following

REPORT:

Your Committee find that the accounts of the City Treasurer have been correctly kept, and that he has satisfactory vouchers for all payments made by him, according to the schedule herewith submitted, showing a balance in his hands of sixty-three thousand three hundred thirty-eight dollars and six cents ($63,338.06) on the first day of December, 1869.

Your Committee would also state that there still remain in the hands of the Treasurer, two thousand dollars ($2,000) of the Cambridge Water-loan Bonds more than his account shows the City to be entitled to.

Respectfully submitted.

DANIEL R. SORTWELL,
SEYMOUR B. SNOW,
JOSEPH H. CONVERSE,
} *Sub-committee.*

SCHEDULE OF EXPENDITURES

FOR

THE FINANCIAL YEAR ENDING NOVEMBER 30, 1869.

For Instruction in Public Schools.

Salaries of Teachers			$94,161.57
Appropriation . .	$91,800.00		
Additional Appropriation	2,591.75		
		$94,391.75	
Amount of Expenses		94,161.57	
Balance unexpended		$230.18	

For Scientific Department of High School.

Chemicals, &c.			$80.49
Appropriation		$100.00	
Amount of Expenses		80.49	
Balance unexpended		$19.51	

For Text-Books for High School.

Books			$10.00
Appropriation		$50.00	
Amount of Expenses		10.00	
Balance unexpended		$40.00	

For Hopkins Fund.

Books			$8.25
Appropriation		$800.00	
Amount of Expenses . .	$8.25		
Transferred	791.75		
		$800.00	

For Evening Schools for Adults.

Instruction		$975.00	
Rent and care of rooms		274.00	
Other Expenses		193.30	
			$1,442.30
Appropriation		$2,500.00	
Amount of Expenses	$1,442.30		
Transferred	1,000.00		
		2,442.30	
Balance unexpended		$57.70	

For Compensation of School Committee of 1868.

School Committee		$1,237.50
Appropriation	$1,500.00	
Amount of Expenses	1,237.50	
Balance unexpended	$262.50	

For Compensation of Secretary of School Committee.

Secretary		$200.00
Appropriation	$300.00	
Amount of Expenses	200.00	
Balance unexpended	$100.00	

For Care and Repairs of School-houses.

Rent of halls for school-rooms	$618.50	
School furniture and repairs	3,348.58	
Fuel	7,790.95	
Care of houses, fires, &c., &c.	4,266.89	
Mats, dusters, &c.	503.37	
Furnaces and repairs	1,262.76	
Repairs	3,210.10	
Books and stationery	2,017.81	
Printing and advertising	561.82	
Water-rates and gas	364.96	
Sundries	303.71	
		$24,249.45

Appropriation . .	$21,000.00	
Additional Appropriation	3,400.00	
		$24,400.00
Amount of Expenses		24,249.45
Balance unexpended		$150.55

For New School-houses and Alterations.

House on Winsor Street		$3,746.00
House on Putnam Street		2,061.65
House on Reed Street		2,020.00
Carpenters' work		624.36
Mason work		160.59
Gravel and teaming		1,111.05
Land		6,016.20
Grading		35.00
Furnaces		2,260.00
Furniture		1,734.60
Repairs		57.92
		$19,827.37
Appropriation	$22,500.00	
Amount of Expenses .	$19,827.37	
Transferred	2,300.00	
	22,127.37	
Balance unexpended		$372.63

For Almshouse and Stone Ledge.

Warden and Matron, salary	$870.00
Assistant Warden, salary	340.00
Assistant Matron, salary	189.59
Physician, salary	150.00
Chaplain, salary	91.67
Clerk of Overseers, salary	300.00
Supplies for the house	6,674.19
Sundry bills, reported by Warden . . .	1,710.34
Dry goods, clothing, &c.	1,153.00
Amount carried forward	$11,478.79

Amount brought forward . . .	$11,478.79	
Sundry laborers	7,284.29	
Fuel	1,140.08	
Heating apparatus	615.77	
Supplies to poor out of the house . . .	3,075.97	
Medical attendance out of the house . .	224.00	
Support of boys and girls in State institutions	900.95	
Support of patients in State institutions .	2,563.70	
Support of paupers out of the city . . .	652.64	
Removing paupers, and travelling expenses	93.63	
Repairs on house	679.31	
Furniture and repairs	165.26	
Wagons and repairs	750.88	
Horse-shoeing and iron-work	420.25	
Horses	820.00	
Cows	307.50	
Hogs	1,103.40	
Grain, meal, hay, and straw	1,430.41	
Harnesses and repairs	286.23	
Drain-pipe, tools, &c.	565.99	
Lumber, cement, and lime	1,201.53	
Manure	103.50	
Powder and fuse	365.05	
Iron and steel	56.70	
Funeral expenses	362.25	
Sundries	71.85	
		$36,719.93
Appropriation . .	$30,000.00	
Additional Appropriation	6,800.00	
	$36,800.00	
Amount of Expenses	36,719.93	
Balance unexpended	$80.07	

For Police and Watch.

Chief of Police, salary	$1,500.00
Services of Policemen	34,003.50
Amount carried forward	$35,503.50

Amount brought forward . . .		$35,503.50
Rent of room for station		105.00
Care of Police Court-room		109.00
Conveyance of prisoners		396.75
Supplies for prisoners and lodgers . . .		36.59
Fuel		379.98
Water-rates and gas		149.10
Furniture		75.75
Hardware, oil, &c.		52.01
Repairs		59.11
Medical attendance at stations		22.00
Horse, wagon, and harness		706.00
Boarding horse and shoeing		173.67
Horse-hire		19.50
Sundries		44.81
		$37,832.77
Appropriation	$40,000.00	
Amount of Expenses $37,832.77		
Transferred 1,500.00		
	39,332.77	
Balance unexpended	$667.23	

For Fire Department.

Chief Engineer, salary	$500.00
Assistant Engineers, salaries	675.00
Clerk of Engineers, salary	31.05
Services of members	16,822.28
Fines of members	191.00
Horses	1,775.00
Horse-hire	342.25
Hose-carriage	600.00
Harnesses and repairs	998.77
Veterinary services	62.00
Grain, meal, hay, and straw	2,327.02
Repairs and materials	5,354.06
Amount carried forward	$29,678.43

Amount brought forward	$29,678.43
Furniture	709.56
Water-rates and gas	438.78
Hose and repairs	3,432.57
Horse-shoeing and iron-work	381.55
Appropriation for Company No. 5	212.50
Appropriation for Company No. 7	240.00
Refreshments to out-of-town companies	147.91
Labor on hydrants and reservoirs	46.25
Hats and badges	378.00
Police services	27.00
Tools, hardware, &c.	447.13
Ladders	33.00
Moving stable	57.50
Paving	259.62
Storage of Engine No. 5	42.00
Engine-house No. 5 and land	15,770.71
Rent of shop	60.00
Sundries for Fire-alarm	7.42
Flag	63.10
Travelling expenses	22.84
Post-office box and stamps	3.90
Printing	14.00
Ringing bells	53.50
Allowance for sickness	50.00
Bedclothes and washing	269.15
Truckage	56.55
Fuel	885.20
	$53,788.17

Appropriation	$45,000.00	
Additional Appropriation	8,800.00	
		$53,800.00
Amount of Expenses		53,788.17
Balance unexpended		$11.83

For Streets and Paving.

Amount paid for labor	$33,705.77	
Paving	29,534.60	
Gravel, stone, brick, and carting	25,379.81	
Lumber and lime	446.03	
Horses	1,950.00	
Horse-shoeing and iron-work	852.86	
Veterinary services	147.00	
Grain, meal, hay, and straw	2,972.57	
Harnesses and repairs	366.84	
Repairs	432.34	
Roller	222.20	
Shovels, hardware, &c.	348.87	
Sundry expenses at stable	134.94	
Sundries	82.95	
		$96,576.78
Appropriation	$60,000.00	
Additional Appropriation	37,000.00	
	$97,000.00	
Amount of Expenses	96,576.78	
Balance unexpended	$423.22	

For Reservoirs and Drains.

Contractors, for building sewers	$25,133.12	
Amount paid for labor	5,966.20	
Bricks, stone, and drain-pipe	3,168.06	
Lumber, cement, and lime	456.93	
Tools, castings, &c.	49.17	
Building cesspool	156.00	
Damages caused by sewer	80.00	
Advertising	48.75	
Sundries	48.00	
		$35,106.23
Appropriation	$50,000.00	
Additional Appropriation	25,000.00	
	$75,000.00	

Amount of appropriations brought forward	$75,000.00	
Amount of Expenses . $35,106.23		
Transferred 35,925.00		
	71,031.23	
Balance unexpended	$3,968.67	

For Care and Repairs of Bridges.

Care of draws	$1,672.39	
Repairs	4,758.38	
Paving	182.70	
Lumber	2,761.71	
Hardware, salt, oil, &c.	388.94	
Water-rates	9.00	
Watchman	15.00	
Truckage	.35	
		$9,788.47
Appropriation	$40,000.00	
Amount of Expenses $9,788.47		
Transferred . . . 27,200.00		
	36,988.47	
Balance unexpended	$3,011.53	

For Lighting Streets.

Superintendent of Lamps, salary . . .	$200.00	
Gas for street-lamps	7,530.64	
Fluid, naphtha, matches, &c.	504.70	
Care of lamps and lighting	3,000.48	
Lamp-posts and fitting	552.99	
Lanterns and repairs	888.83	
Ladders	45.67	
		$12,723.31
Appropriation	$14,000.00	
Amount of Expenses $12,723.31		
Transferred 1,275.00		
	13,998.31	
Balance unexpended	$1.69	

For Watering Streets.

Paid for watering		$3,500.00
Appropriation	$3,500.00	
Amount of Expenses	3,500.00	

For Salaries of City Officers.

Mayor	$1,500.00	
Treasurer and Collector	2,500.00	
City Clerk	2,000.00	
Auditor of Accounts	500.00	
Clerk of Common Council	150.00	
Board of Assessors	3,600.00	
Superintendent of Streets and Drains	1,500.00	
Messenger	1,000.00	
		$12,750.00
Appropriation	$15,500.00	
Amount of Expenses	$12,750.00	
Transferred	2,750.00	
	$15,500.00	

For Cemeteries.

Superintendent, salary	$933.32	
Sundry workmen	6,878.13	
Expense of finishing lodge	2,650.30	
Furniture for lodge	52.75	
Mason-work and stone	15.55	
Pumping out pond	124.50	
Driving piles	61.00	
Cement, hardware, tools, &c.	227.70	
Repairs of tools	23.83	
Use of horse	249.96	
Sods and grass-seed	129.10	
Head-stones in Soldiers' Lot	703.00	
Fuel	241.60	
Sundries	47.89	
		$12,338.63

Expenses for Cemeteries brought forward . .			$12,338.63
Old Grounds.			
Care of ground, Ward I.		$12.00	
Labor on ground, Ward I.		8.50	
			20.50
			$12,359.13
Appropriation . . .	$7,500.00		
Additional Appropriation	5,250.00		
		$12,750.00	
Amount of Expenses		12,359.13	
Balance unexpended		$390.87	
For Public Squares.			
City Forester		$464.10	
Assistants		277.50	
Labor		2,101.66	
Fence, Ward II.		3,394.05	
Painting fences		163.12	
Trees and grass-seed		253.50	
Loam and gravel		33.50	
Lumber and carting		19.77	
Painting flag-staff		100.00	
Ladder		7.00	
			$6,814.20
Appropriation . . .	$5,500.00		
Additional Appropriation	1,600.00		
		$7,100.00	
Amount of Expenses		6,814.20	
Balance unexpended		$285.80	
For Interest and Bank Discounts.			
Cambridge City Bonds		$59,144.00	
Cambridge City Bonds (gold) . . .		7,500.00	
Amount carried forward . . .		$66,644.00	

Amount brought forward . . .	$66,644.00	
Lowell Institution for Savings	2,330.00	
Trustees of Sanders Temperance Fund .	600.00	
Trustees of Dowse Institute	600.00	
Trustees of Daniel White Charity . . .	300.00	
Premium for gold	2,704.68	
Sundry banks, &c., on temporary loans	10,712.79	
Interest on loan cancelled	7.78	
		$83,899.25
Appropriation . . .	$84,000.00	
Amount of Expenses .	83,899.25	
Balance unexpended	$100.75	

For Dana Library.

Librarian, salary	$250.00	
Assistant Librarian, salary	32.00	
Rent of room	250.00	
Care of room	125.00	
Books and stationery	413.18	
Binding books and printing	51.57	
Insurance	20.00	
Water-rates and gas	42.05	
Incidental Expenses	1.40	
		$1,185.20
Appropriation . . .	$1,500.00	
Amount of Expenses .	1,185.20	
Balance unexpended . .	$314.80	

Volunteers and their Families.

Amount paid to soldiers' families		$19,000.00
Appropriation	$20,000.00	
Amount of Expenses	$19,000.00	
Transferred . . .	1,000.00	
		$20,000.00

For Soldiers' Monument.

Contractor for Monument		$5,000.00	
Paid on Statue		1,000.00	
			$6,000.00
Appropriation		$25,000.00	
Amount of Expenses	$6,000.00		
Transferred	10,000.00		
		16,000.00	
Balance unexpended		$9,000.00	

For Telegraphic Fire Alarm.

Paid Contractors			$10,000.00
Appropriation		$10,000.00	
Amount of Expenses		10,000.00	

For Care and Repairs of Water Works.

Superintendent, salary	$820.04
Water Registrar	1,275.00
Clerk of Water Board	150.00
Engineer	1,400.01
Foreman	366.68
Sundry workmen	5,190.24
Repairs and iron-work	550.95
Repairing bank-wall at pond	242.25
Pipe, cement, and packing	247.86
Tools, cotton-waste, oil, &c.	410.08
Assistance in office	1,036.50
Printing and advertising	225.08
Travelling expenses, &c.	38.85
Board of horses, horse-hire, and shoeing	762.30
Wagon, harness, and repairs	172.00
Freight and truckage	45.60
Fuel and freight	5,624.15
Amount carried forward	$18,557.59

Amount brought forward . . .	$18,557.59	
Transporting coal	452.48	
Gravel and sand	98.25	
Dinner for City Council	90.00	
Furniture at engine-house	78.50	
Damages	550.00	
Water-rates refunded	158.19	
Cash paid for sundries	96.90	
		$20,081.91
Appropriation . . . $15,000.00		
Additional Appropriation 5,225.00		
	$20,225.00	
Amount of Expenses	20,081.91	
Balance unexpended	$143.09	

For Supply Account of Water Works.

Sundry workmen	$5,436.77	
Supplies	7,579.85	
Repairs, tools, &c.	449.29	
		$13,465.91
Appropriation	$15,000.00	
Amount of Expenses . $13,465.91		
Transferred 925.00		
	14,390.91	
Balance unexpended	$609.09	

For Extension of Water Works.

Foreman	$566.66	
Sundry workmen	14,801.04	
Pipes, freight, and castings	36,707.26	
Water-gates	2,170.00	
Pumping engines	22,695.59	
Meters	4,867.25	
Amount carried forward . . .	$81,807.80	

Amount brought forward . . .	$81,807.80	
Stone, gravel, and paving	4,493.03	
Lumber and carpenters' work	4,899.64	
Lead	2,272.79	
Packing	480.02	
Tools and sharpening	692.32	
Painting and repairs	1,977.25	
Sods at reservoir	628.20	
Land damages	50.00	
Surveys and plans	335.00	
Horse-hire	248.00	
Truckage	1,048.37	
Sundries	381.09	
		$99,313.51
Appropriation . .	$100,000.00	
Amount of Expenses	99,313.51	
Balance unexpended .	$686.49	

For Sinking Fund of Water Works.

Amount paid to Trustees of Fund		$2,491.74
Appropriation . . .	$10,000.00	
Amount of Expenses	2,491.74	
Balance unexpended	$7,508.26	

For Incidental Expenses.

Legal services and expenses	$743.49
Extra allowance to Superintendent of Lamps	100.00
Extra allowance to Messenger	375.00
Assistant Assessors, services	592.00
Abstract of records for Assessors . . .	37.65
Somerville tax-bill	395.20
Belmont tax-bill	146.33
Settlement of claims	2,393.38
Amount carried forward	$4,783.05

Amount brought forward	$4,783.05
Insurance of public buildings	5,113.03
City Engineer, services	1,800.00
Assistants, services	1,867.25
Expenses of Engineer's office	904.82
Safe for Engineer's office	500.00
Surveys and plans	270.00
Recording births, deaths, and marriages	563.20
Reporting deaths	96.80
Assessing drain taxes	39.76
Treasurer, for clerical assistance	350.00
City Clerk, for clerical assistance	1,000.00
Books and stationery	407.94
Revenue stamps and postage	336.56
Printing and advertising	3,128.04
Page of Common Council	50.00
Paid towards repairs on Brookline Bridge	200.00
Grading Coolidge Avenue	672.50
Stone, carting, and laying	1,164.78
Street signs	177.45
Loam and carting	68.00
Boring on line of sewer	200.00
Bricks	9,136.25
Completing sidewalks	2,966.04
Furniture for City Hall and repairs	247.15
Repairs at City Hall	332.56
Furnaces at City Hall	572.56
Cleaning at City Hall	334.65
Repairs	416.63
Care and repairs of clocks	164.75
Expenses, floral decoration	817.00
Expenses, reception of Chinese Embassy	79.25
Architect of Soldiers' Monument	575.00
Designs for Soldiers' Monument	300.00
Making rolls of soldiers	400.00
Foundation of Monument	2,564.73
Amount carried forward	$42,599.75

Amount brought forward . . .	$42,599.75	
Sundry expenses on Monument . . .	306.14	
Co. C., Fifth Regiment, services at musters, &c., and uniforms	1,839.20	
Land	8,000.00	
Land damages	96.72	
Building bathing-places	132.70	
Trees and setting	359.72	
Water used on North Avenue	201.60	
Water-rates for fire hydrants	6,042.50	
Rent of land for tank and pound . . .	45.00	
Rent and care of ward-rooms	66.00	
Refreshments for ward-officers	65.00	
Railway tickets	180.00	
Horse-hire	33.95	
Music for High-School Exhibition . . .	50.00	
Support of lunatics	673.75	
Water-rates and gas	664.47	
Fuel	524.08	
Weighing coal	66.62	
Tools, dusters, &c.	242.14	
Milk Inspector, salary	187.50	
Vaccination	419.00	
Bell-ringing	242.50	
Truckage	23.10	
Sundries	266.04	
		$63,327.48
Appropriation . . . $30,000.00		
Additional Appropriation 34,000.00		
	$64,000.00	
Amount of Expenses	63,327.48	
Balance unexpended	$672.52	

For Reserved Fund.

Appropriation	$20,000.00
Transferred	20,000.00

RECAPITULATION OF EXPENDITURES FOR THE FINANCIAL YEAR ENDING NOV. 30, 1869.

	Original Appropriations.	Added subsequently.	Subtracted subsequently.	Appropriations as altered.	Amount of Expenditures.	Balances unexpended.
Instruction in Public Schools	$91,800 00	$2,591.75	. . . . .	$94,391.75	$94,161.57	$230.18
Scientific Department of High School	100.00	. . . . .	. . . . .	100.00	80.49	19 51
Text-Books for High School	50 00	. . . . .	. . . . .	50.00	10.00	40.00
Evening Schools for Adults	2,500.00	. . . . .	$1,000.00	1,500.00	1,442.30	57.70
Hopkins Fund	800.00	. . . . .	791.75	8.25	8.25	. . . . .
Compensation of School Committee of 1868	1,500.00	. . . . .	. . . . .	1,500.00	1,237.50	262.50
Compensation of Secretary of School Committee	300.00	. . . . .	. . . . .	300.00	200.00	100.00
Care and Repairs of School-houses	21,000 00	3,400.00	. . . . .	24,400.00	24,249.45	150.55
New School-houses and Alterations	22,500.00	. . . . .	2,300.00	20,200 00	19,827.37	372.63
Almshouse and Stone Ledge	30,000 00	6,800.00	. . . . .	36,800.00	36,719.93	80.07
Police and Watch	40,000 00	. . . . .	1,500,00	38,500.00	37,832 77	667.23
Fire Department	45,000.00	8,800.00	. . . . .	53,800.00	53,788.17	11.83
Streets and Paving	60.000 00	37,000.00	. . . . .	97,000.00	96,576.78	423.22
Reservoirs and Drains*	50.000.00	25,000.00	35,925.00	39,075.00	35,106.23	3,968 77
Care and Repairs of Bridges	40,000.00	. . . . .	27,200.00	12,800.00	9,788.47	3,000 53
Lighting Streets	14,000.00	. . . . .	1,275.00	12,725.00	12,723 31	1.69
Watering Streets	3.500.00	. . . . .	. . . . .	3,500.00	3.500.00	. . . . .
Salaries of City Officers	15,500.00	. . . . .	2.750.00	12,750.00	12,750 00	. . . . .
Cemeteries	7,500.00	5,250.00	. . . . .	12,750.00	12,359.13	390.87
Public Squares	5,500.00	1,600.00	. . . . .	7,100.00	6,814.20	285.80
Interest and Bank Discounts	84.000.00	. . . . .	. . . . .	84,000.00	83,899.25	100.75
Dana Library	1,500 00	. . . . .	. . . . .	1,500.00	1,185 20	314.80
Volunteers and their Families	20,000 00	. . . . .	1,000.00	19,000.00	19,000 00	. . . . .
Soldiers' Monument	25,000.00	. . . . .	10,000.00	15,000 00	6,000.00	9,000,00
Telegraphic Fire Alarm	10,000.00	. . . . .	. . . . .	10,000.00	10,000.00	. . . . .
Care and Repairs of Water Works	15,000.00	5,225 00	. . . . .	20,225.00	20.081.91	143.09
Supply Account of Water Works	15,000.00	. . . . .	925.00	14,075 00	13,465.91	609 09
Extension of Water Works	100,000.00	. . . . .	. . . . .	100,000.00	99,313.51	686 49
Sinking Fund of Water Works	10.000 00	. . . . .	. . . . .	10,000 00	2,491.74	7,508 26
Incidental Expenses	30,000.00	34,000.00	. . . . .	64,000.00	63,327.48	672 52
Reserved Fund	20,000.00	. . . . .	20,000.00			
Amount of Appropriations	$782,050.00	. . . . .	. . . . .	$807,050.00	$777,940.92	$29.109 08
Amount of Expenditures	. . . . .	. . . . .	. . . . .	777,940.92		
Balances unexpended	. . . . .	. . . . .	. . . . .	$29,109.08		

* $25,000 were added to this appropriation, and the creation of a City Debt therefor was authorized. This sum was subsequently transferred to other appropriations.

Dr. JOSEPH WHITNEY, TREASURER,

1868. Dec. 1.	Balance on hand, December 1, 1868,	$94,713.67
	J. K. Farwell, Superintendent, on account of Cambridge Cemetery	7,930.00
	Joseph Whitney, Collector, Taxes of 1869	493,151.70
	" " " " 1868	23,092.77
	" " " " 1867	2,537.18
	" " " " 1866	19.20
	" " " " 1865	280.56
	Pedler's License	25.00
	Boardman School-house, sold	225.00
	State of Massachusetts, on account of School Fund	1,462.03
	Samuel Batchelder, contribution towards payment for injuries to Jane Shea	600.00
	County of Middlesex, for rent of Police Court-room	700.00
	Damage to Furniture at Police Station	25.75
	Return Premium on Insurance Policy	17.85
	Town of Somerville, Repairing Bridge on Bridge Street	4.79
	Hopkins Charity Fund	892.46
	Old Steps sold	1.00
	Old Chairs sold	19.60
	Small Building sold	13.00
	A. Paschall, Tuition	50.00
	Apparatus from High School sold	56.35
	Amoskeag Manufacturing Co., being amount overpaid said company in the year 1867	754 29
	Old Stove sold	5.00
	Brick Reservoir and Lot, Broadway	730.00
	Circus Licenses	50.00
	Auctioneer Licenses	14.00
	Conveying Prisoners	3.75
	Sundry Persons and Institutions, Temporary Loans	485,147.12
	Paving Assessments	3,251.56
	Tax on Shares of Bank Stock, held by non-resident owners	508.25
	Interest on Taxes	784.39
	Cambridge Water Works	91,347.92
	Drain Assessments	4,224.23
	Superintendent of Streets, Rent of Toll-house, Paving, Brick, Stone, and Offal, sold	1,119.06
	State of Massachusetts, State Aid refunded	22,000.00
	" " Corporation Tax	23,619.94
	" " Militia Bounty	1,657.50
	Police Court, Fines, &c.	3,050.65
	Dana Library, Fines and Subscriptions	286.40
	City Bonds sold	110,677.00
	Accrued interest on City Bonds	2,078.00
	Rent of City Hall	138.50
	Cambridge Almshouse	18,965.20
	Liquor Licenses	2,800.00
	Liquor Sales	314.82
	Weighing Fees	511 37
	Horse sold	100.00
		$1,399,956.86

CAMBRIDGE, *Dec.* 1, 1869.

IN ACCOUNT WITH THE CITY OF CAMBRIDGE. Cr.

1868. Dec. 1.	State Tax	$50,420.00
	County Tax	23,252.01
	Interest, Temporary Loan	10,712.79
	Interest, Permanent Loan	72,043.18
	Sinking Fund, Cambridge Water Works, Temporary Loan in 1868	463.38
	Sundry persons and Institutions, Temporary Loan	485,147.12
	State of Massachusetts, Bank Tax	580.34
	" " Liquor Sales	205.22
	Sundry persons, per Mayor's Order	693,794.76
	Balance on hand	63,338.06
		$1,399,956.86

JOSEPH WHITNEY, *Treasurer.*

ACCOUNT OF CITY DEBT, DECEMBER 1, 1869.

Date.	Rate.	To whom Payable.	Amount.	Total.	When Payable.	Interest Paid to
Nov. 6, 1850.	5½	Lowell Institution for Savings	$3,000 00		Nov. 6, 1870.	Nov. 6, 1869.
Jan. 23, 1851.	5½	Do. do. do.	8,000.00		Jan. 23, 1871.	July 23, 1869.
April 6, 1857.	5¾	Do. do. do.	30,000.00		April 6, 1871.	Oct. 6, 1869.
July 1, 1858.	5	Cambridge City Bonds	7,000.00		July 1, 1878.	July 1, 1869.
July 1, 1859.	5	Do. do. do.	15,000.00		July 1, 1879.	July 1, 1869.
July 1, 1862.	5	Do. do. do.	20,000.00		July 1, 1882.	July 1, 1869.
Aug. 1, 1862.	5	Do. do. do.	30,000.00		Aug. 1, 1882.	Aug. 1, 1869.
Sept. 10, 1862.	5	Do. do. do.	40,000.00		Sept. 10, 1882.	Sept. 10, 1869.
Sept. 10, 1862.	5	Do. do. do.	30,000.00		Sept. 10, 1877.	Sept. 10, 1869.
Nov. 20, 1862.	5	Do. do. do.	14,000 00		Nov. 20, 1882.	Nov. 20, 1869.
March 5, 1863.	5	Do. do. do. (gold)	150,000.00		Jan. 1, 1893.	July 1, 1869.
April 1, 1864.	5	Do. do. do.	100,000.00		April 1, 1889.	Oct. 1, 1869.
				$447,000.00		
July 1, 1856.	6	Cambridge Water Loan	50,000.00		July 1, 1881.	July 1, 1869.
May 1, 1865.	6	Do. do. do.	186,400.00		May 1, 1875.	Nov. 1, 1869.
Aug. 1, 1865.	6	Do. do. do.	55,000.00		Aug. 1, 1883.	Aug. 1, 1869.
July 2, 1866.	6	Do. do. do.	100,000.00		July 2, 1886.	July 2, 1869.
April 1, 1867.	6	Do. do. do.	150,000 00		April 1, 1888.	Oct. 1, 1869.
April 1, 1868.	6	Do. do. do.	175,000.00		April 1, 1888.	Oct. 1, 1869.
May 1, 1869.	6	Do do. do.	112,000.00		May 1, 1875.	Nov. 1, 1869.
				828,400 00		
Oct. 1, 1863.	6	Trustees of Daniel White Charity	5,000.00		On demand.	Oct. 1, 1869.
June 1, 1858.	6	Trustees of Dowse Institute Fund	10,000.00			June 1, 1869.
Oct. 8, 1864.	6	Trustees of Sanders Temperance Fund	10,000.00			Oct. 8, 1869.
				25,000.00		
		State Tax	63,025 00		Dec. 1, 1869.	
		County Tax	25,657.50		Dec. 31, 1869.	
				88,682.50		
				$1,389,082 50		

REPORT

OF THE

COMMITTEE ON SOLDIERS AND THEIR FAMILIES.

The Joint Committee on Soldiers and their Families submits to the City Council its Report for the year ending Nov. 30, 1869.

The whole number of cases in which aid has been granted during the year has been 260, of which 2 were under the old law. The number now on the list is 242.

The appropriation for Volunteers and their Families was	$20,000.00
The amount paid from said appropriation to Nov. 30, as appears by the books of the Auditor, was	19,000.00

The payments of State Aid, as returned to the Auditor of the Commonwealth, are for the year ending Dec. 31, 1869, and amount to $19,778.75, of which sum $19,584.15 will be reimbursed to the city by the State.

The monthly payments now amount to about $1,500, and an appropriation of $20,000 will be sufficient for the ensuing year.

All which is respectfully submitted.

CHARLES F. WALCOTT,
J. W. COVENEY,
S. K. WILLIAMS, Jr.,
JOHN McSORLEY,
G. A. SMART,
D. H. THURSTON,

Committee on Soldiers and their Families.

Cambridge, *Dec.* 29, 1869.

REPORT

OF THE

COMMITTEE ON THE SOLDIERS' MONUMENT.

THE Joint Special Committee appointed and duly authorized by the City Council to erect a Soldiers' Monument upon the Common in the First Ward, deem it proper, at the close of the municipal year, to submit a Report of their doings to the City Council the past year.

Your Committee was appointed in January last, and immediately took measures to procure, by public advertisements, designs for a Monument, to be built of granite, — the cost not to exceed the sum of twenty-five thousand dollars above the foundation. About forty designs were received; and, after much discussion and deliberation, a design furnished by Messrs. C. & D. Cobb was accepted by the Committee. Estimates were procured, and your Committee were in a few weeks authorized to erect the design selected, which had been adopted by both branches of the City Council. Authority was given, also, to cause a suitable foundation to be laid for this structure. Accordingly, a contract was made with Messrs. Charles & James W. Presby for a granite foundation, for the sum of $2,200. The foundation was completed, and the corner-stone was laid, with appropriate ceremonies, June 17, 1869. Thomas W. Silloway, Esq., was employed as architect, and also to superintend the erection of the Monument.

A contract was made with Messrs. McDonald & Mann to erect the Monument above the foundation for the sum of $20,500. A contract was also made with Messrs. C. & D. Cobb for a granite statue of a soldier, and nine bronze tablets containing the names of the soldiers, and a dedicatory inscription, for the sum of $4,500; the Monument to be set up complete on or before Nov. 1, 1869. Great care was taken in the selection of the granite, which is of a beautiful light shade, from the Glenn Quarry, so called. Both contracts are well secured by responsible bondsmen. The work has been prosecuted with vigor and despatch, but, owing to causes

beyond the control of the Committee, it was found quite impossible to accomplish it within the time mentioned. The stones are of large size and somewhat elaborate, many of them quite massive. The large amount of cement mortar required in the superstructure, which could not be protected from the frost, and the early setting in of cold weather in October, with the probability that in the spring the dampness from the cement (having been frozen) would discolor the stone, led the Sub-Building Committee reluctantly to recommend a postponement of the setting up of the Monument. The General Committee, under these circumstances, and on this recommendation, voted to extend the contracts within named until June 15, 1870, provided the city should be fully protected by the assent of the bondsmen, and its interests in no wise compromised. The extension of these contracts has been made under the advice of the City Solicitor, and the Monument is to be completed on or before June 15 next, in season for its dedication June 17, 1870.

The granite statue and bronze tablets are expected to be finished during the present month. The statue is being cut from an accepted model furnished by Messrs. C. & D. Cobb, of the full size. The expense of foundation was paid, and $6,000 has been paid on account of the Monument. A large amount of labor has been performed by this Committee, and every precaution has been taken to procure for the city a Monument beautiful in design, desirable in material and structure, and one that shall be a lasting memorial of the deeds and sacrifices of those heroes who represented Cambridge upon nearly every battle-field, and sealed their heroism with their lives.

All of which is respectfully submitted.

CHAS. H. SAUNDERS,
JAMES H. SPARROW,
JOHN S. MARCH,
HENRY W. MUZZEY,
G. A. SMART,
B. J. McCORMIC,
J. W. COVENEY,
NOAH M. COFRAN,
SAMUEL P. ADAMS,
SAMUEL K. WILLIAMS, Jr.,
ALVARO BLODGETT,

Committee on the Soldiers' Monument.

Cambridge, *Dec.* 29, 1869.

REPORT

OF THE

COMMISSIONERS OF THE CAMBRIDGE CEMETERY.

The Commissioners of the Cambridge Cemetery, in conformity with the statutes of the Commonwealth, herewith respectfully submit to the City Council their Fifteenth Annual Report for the financial year ending Nov. 30, 1869.

The general management of the Cemetery has been continued as in former years, and the Commissioners have carried out various improvements during the year, which will add much to the attractiveness of the grounds and the appearance of the Cemetery.

The name of Maple Pond has been given to what has usually been called Island Pond, and the work of deepening has been continued, the banks sodded, and the island neatly graded and enriched suitably for a lawn. A neat and substantial bridge has been constructed connecting the island with the opposite shore, making this pond and island the most attractive portion of the Cemetery.

A large demand for lots has continued during the season, and the original portion of the Cemetery is nearly all appropriated and disposed of. Work will soon have to be commenced upon the new portion to supply the increasing demand for lots. It is now but fifteen years since this Cemetery was dedicated for this use. At the same ratio, the new purchase will not be sufficient for more than twenty years. Efforts have been made the past year to negotiate for a portion of the Winchester Estate, on the westerly side, to straighten our present angular line, and to enlarge the front; but at present without success. Five or six acres might be added on this side with advantage, and would be a good acquisition to the grounds, without material injury to the Win-

chester Estate. A proposition has also been made to the Trustees of Mount Auburn Cemetery, to straighten and continue the easterly line of the new purchase to Coolidge Avenue, which is still under consideration. This is also very desirable for the city to obtain if possible.

The grading of Coolidge Avenue by the city the past year is a decided improvement, and one that has been needed for a long time, or ever since the purchase of the Cemetery. A sidewalk has been built on the easterly side, which renders the approach to the grounds an easy and convenient one, and will be duly appreciated by the large number who now frequent these grounds. We would suggest that the planting of shade-trees upon this avenue would add much to the comfort and convenience of the public visiting the Cemetery on foot. The number of interments made during the year was three hundred and forty-seven, making the whole number since its dedication, in 1854, to be six thousand four hundred and sixty-eight.

The expenditures for the year, ending Nov. 30, 1869, have been as follows; namely, —

Superintendent's salary	$933.32	
Sundry workmen	6,878.13	
Use of horse	249.96	
Sundry other expenses	557.82	
Bills for finishing stone lodge	2,650.30	
Marble head-stones in Soldiers' Lot	703.00	
Fuel	241.60	
Pumping out pond	124.50	
Total		$12,338.63

The receipts have been as follows; namely, —

For burial lots	$6,235.50	
" burial fees	688.00	
" care of lots	831.50	
" grave-markers	17.00	
" wood	56.00	
" hay and sedge grass	102.00	
Making a total of		$7,93000

The total appropriation for burial-grounds for the year was	$12,750.00
Total expenditure, including bills for stone lodge and head-stones for Soldiers' Lot (both amounting to $3,353.30), and expense of care and labor in old burial-ground	12,359.13
Balance unexpended	$390.87
Number of lots now prepared and ready for sale .	80.
" " " sold during the year	69.

The lots now ready for sale are valued at $15,000, and are very desirable. The largest single outlay the past year has been in completing Maple Pond, which has afforded a large amount of muck material for lots, and has required a large amount of sods, beside the outlay for the bridge; deducting these sums and the bills above named for lodge and head-stones from amount expended, the balance would not exceed probably $8,000, which sum, we think, will be sufficient for the coming year.

The new stone lodge answers well the purpose intended. It is convenient and substantial, and a credit to the city, as well as being quite ornamental to the Cemetery.

The present condition of the Cemetery, under the charge of its faithful Superintendent, is eminently satisfactory. The grounds have been kept neat and tasteful the past year, and their general appearance much improved, and will, we think, compare favorably with any similar grounds in our vicinity.

All of which is respectfully submitted.

CHAS. H. SAUNDERS,
Z. L. RAYMOND,
C. M. HOVEY,
GEO. S. SAUNDERS,
JOHN M. TYLER,
J. C. FARNHAM,
DAN'L U. CHAMBERLIN,
Commissioners of the Cambridge Cemetery.

CAMBRIDGE, *Dec.* 15, 1869.

REPORT

OF THE

BOARD OF OVERSEERS OF THE POOR.

THE Overseers of the Poor respectfully submit herewith their Annual Report to the City Council, for the financial year ending Nov. 30, 1869.

The amount of appropriation made by the City Council at the beginning of the year for the Almshouse and Stone Ledge was	$30,000.00	
Additional Appropriation	6,800.00	
Total amount		$36,800.00
Whole amount expended for the year		36,719.93
Balance unexpended		$80.07

The receipts have been as follows; viz.: —

From products of the Farm	$4,409.26	
From Piggery, for sale of hogs and pigs	5,704.28	
From Ledge, for stone	7,205.10	
From the State and cities and towns	1,646.56	
		$18,965.20
Amount now due from other cities and towns for the support of Paupers	$621.37	
From the State	934.87	
For stone delivered sundry persons	3,769.92	
		5,326.16
		$24,291.36

RECAPITULATION.

Total Appropriation for the year		$36,800.00
Balance unexpended	$80.07	
Amount of receipts from all sources	18,965.20	
Amount due as above . . .	5,326.16	
		24,371.43
Actual Expense of Almshouse over income for the year		$12,428.57
Expense of Almshouse over income, 1868		10,229.51
Being an increase over previous year of . .		$2,199.06
Amount of assistance rendered by the Overseers outside of the house during the year		$1,283.54
Value of personal property, as appraised 1869 . .		23,200.40
Value of personal property, as appraised 1868 . .		19,066.90
Increased appraised value of personal property over 1868		$4,133.50

It will be seen that the expenses have increased $2,199.06 over 1868, and that the personal property has also increased $4,133.50 during the past year. The increased expense is accounted for as follows; viz.: Owing to a change in the Statute creating settlements, a large increase of persons in the insane institutions of the State have been charged to Cambridge. In one case, the State, going back for a period of four years, returned a bill for upwards of $600 for a single individual found having a military settlement in our city. The amount from this source has increased from $891.84, in 1868, to $2,563.70, in 1869. Bills for fuel for 1868 and 1869, for the establishment, have been included in this year to the amount of $1,140.08: a large amount being now on hand. An increase of stock in the Piggery has been made, costing about $1,100. Two horses have been purchased, and two new wagons,

for the Swill department, amounting to about $1,100. The above amounts are represented in the increase of the personal property the present year. The number of inmates has continued this year to decrease. The average number supported at the Almshouse during the year was sixty-six: being ten less than the previous year. The number in 1868 was seventy-six; in 1867, was eighty-eight. A peculiar feature in the establishment has been a decrease of inmates, but an increase of receipts, and also of expenses. An unusual demand for stone has continued during the season; and, we believe, the business of the Ledge has been carried on at a profit the present year.

The receipts from the Piggery have also largely increased; and, irrespective of the sanitary benefits, it has now become a source of profit to the city. But whether profitable in a pecuniary sense or not, the comfort and health of the citizens require this provision to be made and carried out by the city.

The school still continues under the efficient charge of Mrs. Rand. Good decorum is always observed; and a proficiency is apparent, especially in singing. It continues to be a credit both to the city and the faithful training of the teacher. Religious services are held, and Sabbath-school instruction given, on the Sabbath.

The management of the house is excellent, under the supervision of Mr. and Mrs. Averill. The inmates are well and kindly cared for, and good discipline is maintained throughout the establishment. Important improvements have been made in the heating and cooking arrangements. Hot and cold water have been introduced into the second story. Water-closets have been constructed, and bathing conveniences (which have been long needed) arranged for both sexes. The water is supplied from two iron tanks placed in the third story. A large saving in coal is expected to be made by these changes. With the many improvements made during the last and the present year, the house is now in complete repair, and has never been in so good condition for the purposes for which it is required. The health of the inmates has been good during the year; and the general management of the Farm, Ledge, &c., well and successfully conducted. We would reiterate however

our views of last year, that this establishment is altogether too extensive for the present number of our poor. A building of smaller dimensions, with a few acres of land, would better accommodate the inmates, while a sale of the balance of land and present building would be highly advantageous to the city.

All of which is respectfully submitted.

CHAS. H. SAUNDERS,
BENJ. F. WYETH,
L. B. GUYER,
J. L. BAILEY,
CHAS. R. PATCH,
EDWARD KENDALL,
JOSEPH H. RICE,
Overseeers of the Poor of Cambridge.

CAMBRIDGE, *Dec.* 15, 1869.

REPORT

OF

JAMES R. MORSE, M.D.,

VISITING PHYSICIAN.

To the Overseers of the Poor of the City of Cambridge:—

GENTLEMEN, — It becomes my duty, in accordance with the regulations of your Board, to submit a Report of services rendered in the care of the sick, at the Almshouse, during the past year. Since the commencement of the year, about forty persons have received regular medical attendance. Also, a large number have been prescribed for and received medical advice, whenever they have applied for the same; except in those cases where taking of stimulating and opiate medicines had become a habit, which would injure the health and become detrimental to the well-being of the applicant.

Of those that have received medical attendance, six have died, as follows: four from consumption, one from paralysis, and one from apoplexy.

Among the large variety of cases which required treatment, there were nine of varicose ulcers, eight of measles, six of accidental fever, six of lung fever, two of venereal disease, six of conjunctivitis, two of fractures, and one of fistula, which received medical care and assistance.

As persons are often received into the house, whose physical impurity and moral depravity are limited only by their opportunities for becoming degraded, it would seem a very unpleasant task to secure for them cleanliness of body, and to cultivate in their minds a higher sense of moral obligation; yet that duty has been performed by those under whose kind care these unfortunate

beings have been placed, with a fidelity and earnest Christian spirit worthy of commendation.

One case of confinement has occurred in the house: the patient still remaining under the kindly care and healthful moral influence of the ever faithful Matron.

All persons outside the house, desiring aid, have been visited, whenever any member of your Board has invited me to see the same, to ascertain their circumstances, and to recommend such aid by the city as their health and comfort seemed to require.

The large number of cases of a chronic nature, which seemed to call for attention and sympathy, has rendered it desirable that frequent visits should be made to the house; for their ailments seemed to arise as much from an abnormal condition of their mental as of their physical system, and frequently they appeared to derive great benefits from such visits, by increasing their faith in the diligent efforts made for their relief from real or imaginary ills.

Allow me, in closing this Report, to assure you, that all the varied and unpleasant duties which those who have the immediate care and responsibility of this institution have been called upon to discharge, have been kindly, humanely, and yet faithfully, performed; being ever willing to sympathize with the suffering and the unfortunate, as well as to care for and kindly advise the erring and the degraded, thereby securing in the management of the house many of the benefits and elevating influences of a true home circle.

Again allow me, gentlemen, to thank you for your repeated acts of kindness and friendship to me.

Respectfully yours,

J. R. MORSE.

CAMBRIDGE, *Dec.* 31, 1869.

REPORT

OF THE

CHIEF ENGINEER OF THE FIRE DEPARTMENT.

ENGINEER'S OFFICE, FIRE DEPARTMENT,
CAMBRIDGE, *Dec.* 18, 1869.

To the Honorable Mayor and City Council: —

GENTLEMEN, — My Twelfth Annual Report upon the condition of the Fire Department is herewith presented, containing rolls of the several companies, a schedule of the fire apparatus in their charge, a list of the location of reservoirs and hydrants, together with a detailed statement relative to fires and alarms which have occurred during the year ending this date. The roll of the Department numbers one hundred and three members, leaving fourteen vacancies. Twenty-seven persons have been admitted, and thirty-three discharged, — exclusive of the surplus number discharged from Daniel Webster Company, No. Five, when the same was re-organized from hand engine to steamer company, — which gives a fair average membership during the year. In consequence of the substitution of a steamer in place of Hand Engine No. Five in May last, Hunneman Engine Company in Ward One was disbanded, so that the apparatus now in service comprises four steamers, one hand engine, and one hook-and-ladder carriage, located as follows, — Steamers Nos. One and Five in the First Police District; Hook-and-Ladder Carriage, Steamer No. Two, and Hand Engine No. Four, in the Second District; and Steamer No. Three in the Third. New wheels have been ordered to substitute those on Steamer No. One and Hose Carriage No. Two, which, when furnished, will complete the repairs, and place the entire apparatus in perfect condition.

The houses are in good condition, with the exception of that in Ward Three, which remains, as heretofore, unsuitable and inconvenient.

Forty-six alarms have occurred during the year: thirty-three of which were for fires in the city; two from out of the city; and eleven from other causes. Nine alarms originated in East Cambridge; nineteen in the Port; twelve in Old Cambridge; and two in North Cambridge.

Engines were used at twenty-two fires. Assistance has been received from out of the city three times; rendered assistance three times. Of the thirty-three fires, seven occurred in East Cambridge; seventeen in the Port; seven in Old Cambridge; and two in North Cambridge.

Thus it will be seen that more than one-half of the fires have occurred in the Port, — a section containing about half of the population of the entire city, and with but one steamer and one hand engine to rely upon.

The liabilities in East Cambridge, in consequence of the many manufactories in operation there, render it necessary to afford more immediate protection in that locality; and, with a view to meet the requirement in these two sections, I urgently recommend that a steamer be located at Atwood Corner as early as possible.

The losses by fire are unusually large, but confined chiefly to those at Skillings's lumber wharf and Woodbury & Co.'s planing mill, both of which, owing to their combustible nature and the unfavorable circumstances attending them, — the former fire commencing in a shingle shed at the windward of immense piles of finished lumber, — gained great headway before water was applied; the latter was in the night following the day of the great gale, which had not entirely spent its force, and the fire had gained strength before discovery; it was working under cover of the smoke when those earliest on the ground thought it was being subdued, but when it got vent it swept through the buildings so rapidly that quite a quantity of hose was burnt before it could be extricated, and the buildings and contents were laid in ashes. This affords an additional admonition to those in such employment to use all preventive means against fire, and furnish means for extinguishing them in their early stages. This was the intention on these premises: but, although the appli-

ances were numerous, they were rendered useless by neglect to have them available when the emergency arrived. Fires proceeding from the too close proximity of wood-work with the brick of chimneys and hearths are of frequent occurrence: no less than four having taken place since the first of November. Such fires result in much damage by water, if not by fire, as the flames work behind the furring and between floors; and, in order to reach them with water, much plastering and finish is damaged.*

Since the third of September, the date on which the Fire-alarm Telegraph went into operation, fifteen alarms have been given with the utmost exactness; and at no time has it been out of service, with the exception of the time on which the tempest swept over our city, breaking the wires by falling trees.

Three false alarms were given by young men, whose curiosity got the better of their judgment; but, as nothing malicious was intended, a drill to the Fire Department was the only damage sustained.

The advantages derived from the use of the telegraph are apparent in many ways. It not only gives direction to the efforts of firemen in the discharge of their duty, but operates as an incentive to promptitude, which, for the interests of the city, is of vital importance. Its full usefulness will not be realized, however, until the several wards of the city are supplied with a sufficient number of church-bell strikers. These will enable the firemen who are at home to get the alarm as promptly as do those who are in the engine-houses. The only bell with striker attached is that upon the Methodist Church, in Ward Two. It was placed there by the constructors of the telegraph, and a proposition was made to the city relative to its purchase, should it conclude to do so within one year. Its value has been already fully demonstrated during the short period it has been in use, if the expressions of commendation from citizens and firemen, who reside within hearing, are of any weight.

It is important that the wires should be extended to Fresh Pond, and the Engineer furnished with a gong to apprise him of the existence of a fire, that he may give the Department the advantage

* For particulars in relation to fires, see Table.

of the pressure of the water through the stand-pipe, and at the same time afford a better supply to the citizens during the time steamers are at work at fires. This was a part of the original plan; but, owing to the limited amount of wire to be used, that was left for future extension.

There is also another important extension which should be made at an early day, and that is to extend the Broadway circuit through Court Street to East Cambridge, that the residents in that section may have some resort at hand in case of a break on the Cambridge-street line. I would therefore respectfully recommend that these extensions be made, and that the telegraph be attached to one church-bell in each ward, and that the city purchase the striker on the church above referred to.

Forty-eight hydrants have this year been attached to the water-pipes; but, notwithstanding, I would recommend the preservation of our reservoirs, and in all important localities have them rebuilt water-tight.

The Department has been prompt and efficient in the discharge of their respective duties, and have, I trust, at all times, whether on parade or on duty at fires, conducted themselves in such a manner as to merit the approbation of your honorable Boards and the citizens generally.

Respectfully submitted.

GEORGE B. EATON,

Chief Engineer.

BOARD OF ENGINEERS.

Chief Engineer.

George B. Eaton,	Columbia, cor. Washington Street.

Assistant Engineers.

Thomas J. Casey,	Cambridge, near Sixth Street.
Jacob A. Holt,	Harvard Square.
Joseph H. Marvin,	Pearl Street. (Sec. of Board.)
Patrick H. Raymond,	Jay Street.

Cambridge Steam Fire Engine Company, No. 1.

House on Church Street, Ward I.

Ai Rollins,	*Foreman.*
John Kinnear,	*Assistant Foreman.*
Edward E. Priest,	*Engineer.*
O. E. Allen,	*Fireman.*
Hiram W. Hooker,	*Driver.*
F. B. Pullen,	*Driver of Hose Carriage.*

Hosemen.

Charles Farwell,	Peter J. Thorogood,
C. F. Shaw,	William Woodland,
Warren Ivers,	John H. Sanderson,
George O. Rollins,	Edward F. Belcher.

Condition of House and Apparatus.

House, Engine with all the equipments, 24 feet of Suction Hose, 3 Horses, 3 Harnesses, Horse Hose Carriage, 1150 feet double-riveted Leather Hose $2\frac{1}{2}$ inch, 150 feet single-riveted, 200 feet 6-ply Rubber, 2 Pipes, 4 Buckets, 1 Axe, 2 Blunderbusses, in good condition.

Engine built by Amoskeag Manufacturing Company, Manchester, N.H., and put in service Sept. 18, 1864.

Steamers Nos. 1, 2, and 3 are of one pattern, and of the second class, have one steam cylinder $8\frac{1}{2}$ inches in diameter, one double-acting vertical plunger pump of $4\frac{3}{4}$ inches diameter, with 12-inch stroke.

They will discharge 400 gallons of water per minute, if required; will throw two $\frac{7}{8}$-inch streams 210 feet each, or one $1\frac{1}{8}$-inch stream 250 feet. Two copper tanks are attached containing fresh water, with which to furnish the boiler when using salt water upon a fire. With fuel and water, as run to fires, weight about 6000 pounds. The Horse Hose Carriages, which accompany the Engines, were built by Messrs. Hunneman & Co., of Roxbury. They are two-wheeled, and capable of carrying 900 feet of hose; weight, as run to fires, 1600 pounds.

An Engineer, Driver of Steamer, and Driver of Hose Carriage are permanently employed. These, together with a Fireman and ten Hosemen, constitute the entire company of a Steamer. Sleeping accommodations are furnished for one member in addition to those permanently employed.

Union Steam Fire Engine Company, No. 2.

House on Main, near Winsor Street, Ward IV.

William Cade,	*Foreman.*
Thomas H. Lucy,	*Assistant Foreman.*
William Nicholson,	*Engineer.*
Nathan Hutchinson,	*Fireman.*
John Walker,	*Driver.*
Joseph Cartwright,	*Driver of Hose Carriage.*

Hosemen.

Daniel McCarty,	Edmund Foss,
Charles A. Paine,	Edward Webster,
Eldorado Osborn,	Amos Jarvis,
William Foss,	Charles Snow.

Condition of House and Apparatus.

House, Engine with all the equipments, 34 feet of Suction Hose, 3 Horses, 4 Harnesses, Horse Hose Carriage, 1000 feet $2\frac{1}{2}$-inch double-riveted Leather Hose, 100 feet Rubber, 2 Pipes,

3 Buckets, 1 Axe, 2 Blunderbusses, in good condition; 500 feet $2\frac{1}{2}$-inch double-riveted Leather Hose, 100 feet Rubber, ordinary.

Engine built by Amoskeag Manufacturing Company, Manchester, N.H.; put in service Aug. 1, 1863.

Fuel Wagon housed on Cherry Street, near Main.

Niagara Steam Fire Engine Company, No. 3.

House on Cambridge, near Third Street, Ward III.

Henry Baker,	*Foreman.*
William F. Newman,	*Assistant Foreman.*
Hiram Blood,	*Engineer.*
Moses Dudley,	*Fireman.*
James S. Casey,	*Driver.*
Lorenzo Dale,	*Driver of Hose Carriage.*

Hosemen.

Thomas J. Dale,	Joseph W. Ellis,
Francis P. Carr,	Dennis Corcoran,
William M. Loring,	L. B. Hopkins.

Condition of House and Apparatus.

House unsuitable and inconvenient; Engine with all the equipments, 24 feet of Suction Hose, 3 Horses, 3 Harnesses, Horse Hose Carriage, 1000 feet $2\frac{1}{2}$-inch double-riveted Leather Hose, 150 feet Rubber, 100 feet Canvas, 3 Pipes, 3 Buckets, 1 Axe, 2 Blunderbusses, in good condition; 300 feet double-riveted $2\frac{1}{2}$-inch Leather Hose, 100 feet single-riveted, ordinary.

Engine built by Amoskeag Manufacturing Company, Manchester, N.H.; put in service Sept. 18, 1862.

Hydrant Hand Engine Company, No. 4.

House at junction of Western Avenue and River Street, Ward IV.

Daniel R. Melcher,	*Foreman.*
Albert Norris,	1*st Assistant Foreman.*
Samuel Wentworth,	2*d Assistant Foreman.*
Hiram Corson,	*Clerk.*
Andrew J. Ayers,	*Steward.*

Members.

John L. F. Myers,
William Norris,
Thomas Day,
William H. Jenness,
Samuel Ham,
William Freeman,
James H. Lee,
Benjamin S. Watts,
William N. Megroth,
J. C. Cronan,
John Ham,
Thomas Dolan,
Nathaniel Ham,
Charles W. Small,
Lewis P. Jenness,
Richard H. Marvin,
William E. Cole,
Charles F. Sweet,
John G. Hicks,
Charles J. Hatch,
George L. Jenness,
Warren Stickney.

Condition of House and Apparatus.

House, Engine, 24 feet of Suction Hose, 2 Buckets, 1 Pipe, 2 Blunderbusses, 1 Axe, Hose Carriage, 175 feet $2\frac{1}{2}$-inch single-riveted Leather Hose, 750 feet 2-inch, in good condition.

Engine built by Howard & Davis.

Daniel Webster Steam Fire Engine Company, No. 5.

House on North Avenue, near Russell Street, Ward V.

Charles E. Presby,	*Foreman.*
Daniel O'Connell,	*Assistant Foreman.*
John Powers,	*Engineer.*
S. M. Parsons,	*Fireman.*
George T. Presby,	*Driver.*
A. E. Long,	*Driver pro tem. of Hose Carriage.*

Hosemen.

H. K. Parsons,
Edward Pratt,
Benjamin Young,
James H. Wakefield,
Edward M. Lynes,
John W. Holbrook.

Condition of House and Apparatus.

House new, and also Engine and Apparatus; 24 feet of Suction Hose, 3 Horses, 3 Harnesses, Horse Hose Carriage, 1400 feet $2\frac{1}{2}$-inch double-riveted Hose, 200 feet Rubber, 100 feet Canvas, 2 Pipes, 2 Buckets, 1 Axe, 2 Blunderbusses, in good condition.

This Engine is of the double pump, second class, small size pattern, with $4\frac{1}{8}$-inch pump cylinders and 8-inch stroke; steam cylinders $6\frac{7}{8}$-inch diameter and 8-inch stroke, and, without fuel or water, in weight 5800 pounds. It was built by the Amoskeag Manufacturing Company of Manchester, N.H., and put in service May 28, 1869.

The Hose Carriage, which accompanies this Engine, was built by Messrs. Hunneman & Co., of Boston, is four-wheeled and of the most improved pattern. It will carry 800 feet of Hose; and when unloaded weighs 1675 pounds.

Franklin Hook and Ladder Company, No. 1.

House on Main, near Winsor Street, Ward IV.

Thomas Drinan,	*Foreman.*
Charles E. Warren,	*Assistant Foreman.*
George W. Lamson,	*Driver.*

E. A. Hall,	Charles Emerson,
Charles D. Nealy,	Lewis C. Clark,
Benjamin T. Marble,	Jackson E. Hall,
Israel Woodbury,	James Cunningham,
John W. Downing,	James P. Ewell,
Albert March,	James R. Bowlby,
Clarence Edwards,	Philip Cartwright.

This Company was re-organized in May last, and is now officered to conform with steamer companies, and consists of seventeen members including a Driver.

Condition of House and Apparatus.

House, Carriage, 2 Horses, 2 Harnesses, 13 Ladders, of various lengths, from 10 to 30 feet, 1 Splice Ladder of 50 feet, and 1 of 36, 2 Guy Ropes, 8 Buckets, 2 Large Hooks with Chain and Rope attached, 2 Hand Hooks with Poles, 6 Crotch-Poles, 4 Chain Dogs, 4 Fire Rakes, 6 Pitchforks, 4 Axes, 1 Crowbar, 1 Saw, 1 Wrench to Reservoir supply pipes, in good condition.

One Long Ladder is kept in a shed attached to the fence in the yard of the First Methodist Society, Third Street, Ward III.; also, a Fire Hook, the Rope to which is kept in No. 3 Engine House. Four Ladders and a Large Hook are kept in the yard of Steamer House No. 5, as also the old Ladder Carriage.

In addition to the articles herein described, the companies are furnished with numbered Badges, Keys, Fire Hats, Belts and Spanners, Lanterns, Crowbars, Hydrant Wrenches, Goose-necks, Reducing Couplings, and all the necessary apparatus for use in the performance of their respective duties.

Engine No. 7 and Hose Carriage are stored in the old house, and are for sale.

Fire Police.

George S. Pike, Ward II.
Moses Ricker, Ward IV.

RESERVOIRS.

A star (*) indicates those furnished with supply pipe.

LOCATED IN WARD ONE.

Corner Main and Dana Streets.
Mt. Auburn Street, foot of Linden St.
*Mt. Auburn, opp. Orthodox Church.
*Corner Brighton and Eliot Streets.
Brattle Street, South end Appian Way.
*Garden Street, North end Appian Way.
Junction Garden Street and Concord Avenue, opposite arsenal.
Square, front of house of late Dr. Holmes.
Kirkland, opposite Oxford St.
Sumner Street, opposite residence of Mr. Lerned.
Cambridge Street, nearly opposite Sumner Street.
Prescott Street, near J. D. Green's barn.
Bow Street, centre of Square.
College Yard.

LOCATED IN WARD TWO.

*Junction Main Street and Broadway.
Pioneer Street, front of School-house.
*Corner Harvard and Davis Streets.
*Broadway, corner Winsor Street.
*Harvard Street, head of Cherry.
*Harvard St., opposite Burial-Ground.
*Corner Harvard and Prospect Streets.
Corner Essex and Austin Streets.
Corner Main and Hancock Streets.
Broadway, head of Tremont Street.
*Norfolk Street, midway between Broadway and Hampshire Street.
*Corner Harvard and Columbia Streets.
*Austin St., between Temple and Inman.
*Corner Inman and Harvard Streets.
*Corner Clark and Hampshire Streets.
*Corner Webster Ave. and Cambridge Street.
*Corner Tremont and Gardner Streets.
Corner Washington and Cherry Sts.
*Prospect Street, 175 feet north of Broadway.

LOCATED IN WARD THREE.

*Front of Hotel, junction Bridge and Gore Streets.
*Corner Gore and North Third Streets.
*Cambridge Street, 70 feet east of Third Street.
Corner South Sixth and Spring Sts.
Under N. England Glass Co.'s Building.
*Corner Otis and Fourth Streets.
Corner Cambridge and South Fifth Sts.
*Corner Thorndike and Third Streets.
New England Glass Co.'s Yard.
Winchester's Factory Yard.
Under Lowell R. R. Machine Shop.

LOCATED IN WARD FOUR.

*Corner Washington and Harrison Sts.
East end of School Street, near Brooks's Buildings.
Main St., 50 feet west of Car Factory.
Corner School and Cherry Streets.
Corner Brookline and Auburn Streets.
Corner Pearl and Franklin Streets.
*Junction Western Avenue and Pleasant Street.
*Corner Magazine and Williams Streets.
Main Street, near Liberty Pole.
*Corner Main and Brookline Streets.
*Corner Austin and Douglass Streets.
*Pearl St., near Jones & Co.'s Factory.
*Main Street, junction of Western Avenue and River Street.
Corner Main and Austin Streets.
Green Street, opposite house of Daniel Stone.
Main Street, east side of D. Osborn's Factory.
Corner Washington and Pine Streets.

LOCATED IN WARD FIVE.

In Square, opposite Porter's Hotel.
N. Avenue, near Engine House No. 5.

HYDRANTS.

A star (*) indicates 3-inch hydrants.

LOCATED IN WARD ONE.

On Brattle Street, opp. the line between Messrs. Longfellow and Hastings.
Corner Brattle and Ash Streets.
Corner Brattle and Hilliard Streets.
On Brattle St., corner Brattle House estate.
On Harvard St., opp. Harvard Block.
Junction of Main and Harvard Streets.
Corner Main and Trowbridge Streets.
Corner Harvard and Remington Sts.
On Cambridge St., front Scientific Sch.
Corner Cambridge and Sumner Streets.
Corner North Avenue and Chauncy St.
Mt. Auburn, opposite McClellan Street.
Corner Cambridge and Baldwin Streets.
*Corner Appleton and Highland Streets.
Corner Church and Palmer Streets.
Corner Garden and Mason Streets.
Junction Waterhouse Street and Concord Avenue.
*Corner Mellen and Oxford Streets.
Corner Mt. Auburn and Brighton Sts.
Corner Mt. Auburn and Howard Sts.
Corner Dunster and South Streets.
On Kirkland Street, opp. Divinity Hall Avenue.
On Oxford Street.
Corner North Avenue and Shepard St.
Between the rails of R. R. track, in front of Lyceum Hall.
Corner Phillips Place and Berkeley St.
Craigie, near corner Sparks Street.
*Corner Brattle and Lowell Streets.
*Junction Broadway and Cambridge St.
*Corner Broadway and Prescott St.
*Corner Broadway and Trowbridge St.
*Concord Avenue, opposite Craigie St.
*Corner Broadway and Quincy Street.
*Corner Broadway and Ware Street.
*Corner Broadway and Ellery Street.
*Corner Foster and Sparks Streets.
*Everett, South side, midway between North Avenue and Oxford Street.
*Corner Oxford and Everett Streets.
*Corner North Avenue and Holmes Pl.
*Corner North Avenue and Jarvis St.
*Mt. Auburn and Bow Streets.
*Mt. Auburn, opp. De Wolf Street.
*Chauncy Street, 500 feet from North Avenue.
*Ellery St., East side, midway between Broadway and Cambridge Street.

LOCATED IN WARD TWO.

Corner Main and Lee Streets.
Corner Main and Hancock Streets.
On Moore, head of Hastings Street.
Corner Washington and Clark Streets.
Corner Harvard and Clark Streets.
On Norfolk St., head of Washington St.
On Essex Street, westerly side, midway between Harvard and Austin Streets.
On Cambridge Street, north side, near junction of Hampshire and Cambridge Streets.
On Main, opposite Pleasant Street.
Corner Main and Essex Streets.
Corner Winsor and Lincoln Streets.
Corner Winsor and Hampshire Streets.
On Cambridge St., cor. Willow Place.
On Cambridge Street, opposite the head of Maple Avenue.
Corner Broadway and Davis Street.
Corner Harvard and Hancock Streets.
Corner Harvard and Dana Streets.
Corner Columbia and Washington Sts.
*Corner Winsor and Washington Sts.
On Prospect Street, opp. B. Tilton's.
Corner Prospect Street and Broadway.
Corner Prospect and Hampshire Sts.
Corner Norfolk and Hampshire Streets.
On Tremont Street, near Wellington's House.
Main, corner of Dock Street.
Corner Market and Union Streets.
*Corner Broadway and Dana Street.
*Corner Broadway and Ellsworth Ave.
*Corner Broadway and Fayette Street.
*Corner Broadway and Amory Street.
*Corner Broadway and Norfolk Street.
*Corner Broadway and Boardman St.
Broadway, opposite Tucker's Factory.
*Centre St., opp. Dana School-house.
*Corner Broadway and Hancock Street.
*Corner Broadway and Antrim Street.
*Corner Broadway and Tremont Street.
*Corner Broadway and Elm Street.
*Junction Broadway and Hampshire St.
*Corner Broadway and Dock Street.
*Corner Broadway and Court Street.
*Corner Columbia and Market Streets.
*Corner Columbia and Hampshire Sts.
*Corner Union and Hampshire Streets.
*Corner Elm and Market Streets.

WARD TWO — *continued.*

*Main Street, Lower Port.
*Corner Cambridge and Rideout Streets.
*West Boston Bridge.
*West Boston Bridge.
*Bigelow, midway between Main and Harvard Streets.
*Corner Main and Bigelow Streets.
*Corner Harvard and Norfolk Streets.

LOCATED IN WARD THREE.

Corner Cambridge and Sixth Streets.
Corner Cambridge and Third Streets.
Junction Cambridge and Bridge Sts.
On Bridge Street, opposite Wellington's counting-room.
*On North Street, near Glass Co.'s cutting-shop.
On Bridge Street, south side, opposite the head of Water Street.
Corner Third and Vine Streets.
*Corner Cambridge Street and Franklin Alley.
Corner Gore and Lambert Streets.
*Court, opposite Kerosene Works.
Corner Fifth and Gore Streets.
Corner Second and Otis Streets.
On Bridge Street, opposite Bay State Glass-House.
Corner Otis and Seventh Streets.
Corner Thorndike and Sixth Streets.
Corner Thorndike and Fifth Streets.
Corner Gore and Fourth Streets.
Corner Spring and Fourth Streets.
*Corner Otis and First Streets.
*Corner Fifth and Charles Streets.
*Corner Fifth and Spring Streets.
*Corner Jefferson and Warren Streets.
*Corner Court and Munroe Streets.
*Corner Sixth and Gore Streets.
*Corner North and East Streets.
*Corner Bridge and Prison Point Sts.
*Corner Cambridge and Lambert Sts.
*Corner Charles and Fourth Streets.
*Corner Bridge and Short Streets.
*Corner Third and Winter Streets.

LOCATED IN WARD FOUR.

Corner Main and Columbia Streets.
Near junction of Main and Austin Sts.
Corner Main and Winsor Streets.
Junction of Front and State Streets.
On Washington Street, near east end.
On Main St., opp. Brooks's Buildings.
On River, opposite Cottage Street.
On River, opposite Harrison Avenue.
Corner Western Avenue and Jay St.
*Corner Pleasant and Walnut Streets.
*Corner Pleasant and Somerset Streets.
*Corner Pleasant and Park Streets.
*Corner Pleasant and Webster Streets.
*Corner Pleasant and Green Streets.
*Franklin, near the hill.
*Corner Pleasant and Franklin Streets.
Corner Pleasant and Prince Streets.
Corner River and Franklin Streets.
Corner Pearl and Cottage Streets.
Corner Pearl and Auburn Streets.
Corner Brookline and Franklin Streets.
On Main Street, north side, opposite Kennedy's Bakery.
Foot of School Street.
Magazine, near Short Street.
Corner Main and Norfolk Streets.
*Corner Franklin and Soden Streets.
*Corner Franklin and Hancock Streets.
*Corner Franklin and Bay Streets.
*Corner Magazine and Park Streets.
*Corner Magazine and Webster Streets.
*Corner Magazine and Warland Streets.
*Corner Magazine and Auburn Streets.
*Corner Magazine and Cottage Streets.
*Corner Magazine and Walnut Streets.
*Corner Green and Bay Streets.
*Corner Pearl and Lake Streets.
*Corner Western Ave. and Howard St.
*Corner Pearl and Walnut Streets.
*Corner Brookline and Walnut Streets.
*Corner Brookline and Erie Streets.
*Corner Brookline and Allston Streets.
*Corner Brookline and Hamilton Sts.
*Corner Brookline and Valentine Sts.

LOCATED IN WARD FIVE.

Between rails of railroad, opp. office door.
On North Avenue, opp. Linnæan St.
*On North Avenue, cor. Chester Street.
*Garden, opposite Bond Street.
*Corner North Ave. and Arlington St.
Corner North Avenue and Rice Street.
*North Avenue, near Gerry's saloon.
*North Avenue, cor. Coggswell Avenue.
*Corner Linnæan and Avon Streets.
*Corner Linnæan and Bowdoin Streets.
*Corner North Avenue and Allen St.
*Corner North Avenue and Dover St.
*Corner Shepard and Avon Streets.
*Two on Raymond, south side, near Mr. Dresser's estate.
*Corner Linnæan and Raymond Streets.
*Corner Oxford and Forest Streets.
*Corner North Ave. and Sacramento St.

FIRES AND ALARMS FROM DEC. 18, 1868, TO DEC. 18, 1869.

Date.	Owner or Occupant.	Description.	Situation.	Loss.	Insurance.	Causes.
1868.						
Dec. 27	Bay State Glass Co.	Glass-house	Bridge Street	$1,300	$1,300	Bursting of a pot.
1869.						
Jan. 7	Grover & Brother	Polishing shop	Main Street	Trifling.		Fluid ignited from flames of lamp.
" 15	Mrs Sarah Wells	Dwelling-house	Mount Auburn Street	"		Heat from stove set fire to wood-work.
" 24	George Hartness	Hay-stack	Between Mount Auburn and Brattle Streets	"		Probably set fire to by boys.
Feb. 5	Thos. Booth	Tinning factory	Cor. Pleasant and Park	200		Took from furnace.
" 18	Peter L. Baldwin	Dwelling-house	Washington Street	300	300	Insecure chimney.
" 27		Alarm				Setting clock on Baptist Church.
March 8	D. N. Skillings	Lumber wharf	Prison Point Street	35,000	33,000	Unknown.
	Flint & Hall	" "	" " "	8,000	8,000	
" 16	W. Lincoln & Co	Kerosene works	Court Street	Trifling.		Bursting of pipe to still.
" 22	Myers & Co.	Dry-house	Osborn Street	"		Imperfect heating apparatus.
April 11	Josiah Coolidge	Stack of hay	Near Brattle St., in field	"		Probably set by boys.
" 18	Davis & Bates	Grain store	Main Street	2,325	2,325	Unknown.
	Francis Beach	Billiard saloon	Over D. & B.'s store	775	775	
" 22		Alarm				Bell ringing for meeting.
May 30	E. A. Chapman	Carriage factory	Brattle Street	1,500	1,200	Incendiary.
	F. L. Chapman	Carriages and stock		13,000	2,400	
June 8	William M. Evans	Carriage-smith's stock	Main Street, Lower Port	1,500	500	Unknown.
	W. H. Saulorn	Counting-room	" "	700	500	
	Mason Heirs	Stable		800		
	A. J. Childs	Teams		300		
	Davis & Goodrich	Patterns and stock		800		
	T. C. Webb & Co.	Carriages		400		
" 14	Dennis Twigg	Dwelling-house	Rear Mt. Auburn St.	Trifling.		Probably set by children at play.
" 21	Seavey & Co.	Stamping factory	Court Street, Ward II.	7,000	6,500	Unknown.
" 29	J. A. Holmes	Grocery Store and stock	Main Street	1,464	1,464	"
July 5	Thomas Stevenson	Stucco works	Spring Street	Trifling.		Kettle of tar took fire.
" 24	G. Rivera	Barn and horse	Green Street	350	150	Unknown.

Aug. 7	Lowell Heirs	Brewery	Fifth Street	Trifling.		Sparks on roof.
" 12		Alarm	Somerville			Fire in Somerville.
" 18	Seavey & Co.	Stamping factory	Court Street	2,050	2,050	Took from furnace.
" 24	Swett & Co.	Furniture store;	Main Street	Trifling.		Spontaneous igniting of oil rags.
" 24	J. Hews	Dwelling-house	Dublin Street	400	400	Incendiary.
" 25	Josiah Coolidge	Barn and stock	Brattle Street	4,500	1,400	Unknown.
" 31	J. McAboy	Blacksmith's shop	Cambridge St., Ward II.	Trifling.		Took from forge.
Sept. 2		Alarm	Somerville			Fire in Somerville.
" 4	Catharine Curran	Dwelling-house	Eliot Street			Chimney on fire.
" 6		Alarm				Telegraph wires struck together.
" 8		Alarm				Telegraph wires broke by the gale.
" 9	Woodbury & Co.	Planing mill	First Street	75,000	25,000	Took from furnace spark.
	F. Geldowsky	Stock and furniture		89,000	39,000	
	Daniels & Harrison			10,000	7,000	
" 22		Alarm from Box 35	Sumner and Camb. Sts.			For mischief.
" 26		" " " 31	Broadway			" "
" 28		" " " 43	Garden and Chauncy			" "
Oct. 2	J. O. Brien	Dwelling-house	Hancock Street			Chimney on fire.
" 7	John Mahady	" "	Pleasant Street	Trifling.		Unknown.
" 7		Alarm	First Street			Rags fired by boys.
" 16	J. Hews	Dwelling-house	Dublin Street	600	600	Incendiary.
Nov. 2	J. Rohde	" "	River Street	829	829	Chimney insecure.
" 16	Myers & Co.	Dry-house	Osborn Street	50		Imperfect heating apparatus.
" 20	P. McCabe	Dwelling-house, unfinished	Cambridge Street	3,000	3,000	Incendiary.
" 22	Lydia King	" "	Prospect Street	400	400	Wood-work took from chimney.
" 23	S. W. Hanks	" "	Harvard and Ware Sts.	Trifling.		" " " hearth.
" 28		Alarm				Intoxicated man crying fire.
Dec. 7	Wm. H. Jackson & Co.	Waste bleaching machinery	Broadway	1,500	1,000	Furnace hearth laid on wood.
	Williamson, Garlach, & Bartlett	Building for Bleachery		1,380	380	
				$264,423	$139,473	

RECAPITULATION.

Number of Engineers			5
Members			96
Fire Police			2
Steam Fire Engines			4
Hand Engines			2
Horses			14
Horse Hose Carriages			4
Hand Hose Carriages			2
Feet of Suction-Hose			154
Buckets			25
Pipes			10
Blunderbusses			10
Feet of Leading Hose			8300
Hook and Ladder Carriage			1
Ladders			20
Large Hooks with Chain			5
Hand Hooks with Poles			4
Crotch Poles			6
Fire Rakes			4
Pitchforks			6
Fire Hats			6
Reservoirs			63
Hydrants			187
Alarms from fires in city		33	
Alarms from fires out of city		2	
Alarms from other causes		11	
		—	46
Loss on Buildings and Stock	$264,423		
Insurance on Losses	139,473		
	———		$124,950

REPORT

OF

GEORGE L. CADE,

SUPERINTENDENT OF STREETS AND DRAINS.

City of Cambridge, *Dec.* 15, 1869.

To the Honorable City Council: —

The undersigned asks leave to submit for your consideration his Sixth Annual

REPORT.

Streets and Paving.

The appropriation for Streets and Paving for the financial year ending Nov. 30, 1869, was	$60,000.00
Additional appropriation	37,000.00
Total appropriation	$97,000.00
Expended	96,576.78
Balance unexpended	$423.22
Amount received and paid to Treasurer	548.96

The expenses of this Department have been unusually large the past year; and I cannot see that the amount will be reduced for the next two or three years, if the City Council is to meet the wants of the public. The people demand better facilities for travel, and are willing to pay for them. I am satisfied that at least fifty thousand dollars may be judiciously expended for paving, each year for the next three years. Jobs of paving have already been commenced, that will require at least fifteen thousand dollars for their completion. I would again urge the necessity of the city's leasing or purchasing a wharf at the Lower Port, for the

landing of material for paving, edgestone, &c., so that we may be able to go into the market and purchase at first cost. There is no question of the feasibility of the plan, as a great saving can be made by so doing, and stock can always be in readiness, and at a less cost, as in the city of Boston. I would recommend that edgestone be set and a brick sidewalk be laid on the north side of Cambridge Street, from Sixth to Hampshire Street, the coming spring, believing that it would be a great accommodation to the public, and that safety and convenience demand it. The value of all the property on the line of said walk would unquestionably be increased, so that the city would make money by the operation, in less than three years, by the increase of taxes. I would also urge the necessity of the paving of Bridge Street, its entire length, the coming spring. There is not a street in the city where there is so much travel, and it is almost impossible to keep it in decent order. A portion of Main and Cambridge Streets should also be paved next season. During the past year there have been 47,636 yards of paving done, and 44,183 feet of edgestone set. A considerable portion of this was done in completing the walk on the north side of Main Street. The whole cost of said walk

was	$21,779.61
Amount assessed on abuttors	10,268.66
Amount paid by the city	$11,510.95

This includes the cost of repaving certain portions of the street and also the laying of crossings along the line of said walk. But the award for damages on Dana Hill is not included in the above estimate. Upwards of 4000 feet of edgestone have been set upon the Prospect-street job, and the sidewalks paved with brick from Main to Austin Streets, but I was obliged to suspend operations on account of the lateness of the season, and the assessment for this work must be deferred until another year. The order for the setting of edgestone on North Avenue, above the Railroad Bridge, could not be complied with on account of the proposed change of the lines of said street. The regular force employed in the Street Department at the present time is thirty-five men and seventeen horses; and I have also expended during the year, for extra horse-hire, and teaming of gravel and stone, upwards of

$20,000. I would here call the attention of the City Council to the urgent necessity of making some provision for the procuring of gravel, of a better quality, for the use of the streets. The gravel that the city now owns in Belmont is of a very sandy nature, and does not possess the wearing qualities which are required for the grading of streets, and owing to the great distance from which it must be drawn, makes a very expensive material for use on any street where there is considerable travel, as it will not last more than one year. It will answer for the northerly section of the city for cross streets, and could there be used to advantage.

I would respectfully urge the propriety of taking advantage of the act passed by the Legislature in 1869, Chap. 237, giving cities and towns the right to take land for the gravel necessary for repairing streets. A piece of land containing some two or three acres, belonging to the Tufts' Estate, so called, at the foot of Magazine Street, could be taken, and a great saving made to the city by so doing. There is a good quality of gravel here which could be excavated to the depth of ten or twelve feet. This must be done at some future day to make it conform to the grade of the street, which will in all probability be laid out on the easterly side of this estate to make it available for building purposes. This property would be easy of access from both the easterly and westerly sides. The streets and sidewalks of the city are as a whole in a very good condition; but there is room for improvement, and will be for years to come, but it cannot be made unless the City Council will make liberal appropriations. An appropriation of not less than $100,000 will be necessary for the coming year.

Bridges.

The appropriation for Bridges for the financial year ending Nov. 30, 1869, was	$40,000.00
Amount expended	9,788.47
Balance unexpended	$30,211.53
Cash received and paid to Treasurer	570.10

The several bridges of the city are in a very fair condition, with the exception of West Boston and Canal Bridges. I cannot be-

lieve it possible or practicable to permit the former to go another year without the building of a new draw. The present one is in such a decayed and worthless condition that it is not safe for some of the heavy teams to pass over it. And even now some materials that are necessarily transported to this city, have to go through Charlestown and Somerville to be landed, on account of the unsafe condition of this bridge. I would again suggest for your consideration, the propriety of removing one of the sidewalks on this bridge, and repaving with wood or trap-rock. It is next to impossible to keep the paving in good condition with the present material, and it is certainly very inconvenient for light travel in its present condition. There must also be extensive repairs made on Canal Bridge in the way of paving, &c.

It will require at least $15,000 to make the ordinary repairs on bridges the coming year, exclusive of any expenditure for new draws. It will be almost impossible to make any reliable estimate of the amount that will be needed for bridges, if the requirements of the Harbor Commissioners are complied with as per Chap. 311 of the Acts of the Legislature of 1869. I do not think they could be carried out for a less sum than two hundred and fifty or three hundred thousand dollars.

Reservoirs and Drains.

The appropriation for Reservoirs and Drains for the financial year ending Nov. 30, 1869, was	$75,000.00
Amount expended	35,106.23
Balance unexpended	$39,893.77

The several sewers that have been constructed the past season, have been under the direction of the Committee on Reservoirs and Drains and the City Engineer, and have all been built by contract with different parties, with but three exceptions, viz., the sewers in Putnam Street and Prison Point Bridge Street, and the extension of the Broadway sewer near Inman Street, which were completed under the direction of the Superintendent of Drains. There have been expended on these, including sundry repairs on sewers and cesspools, the sum of $7,163.10. Of the balance of the expen-

ditures I have no means of knowledge except the records which I find in the Auditor's books.

Not less than $50,000 will be required for the appropriation for Reservoirs and Drains for the coming year.

Schedule of Personal Property belonging to Street Department.

Fifteen Horses	$6,000.00
Fifteen Cart Harnesses	450.00
Ten Carts	750.00
One Wagon and Harness	250.00
One set of Runners	75.00
One Plough	10.00
Utensils for work on streets, &c	375.00
Stable Furniture	75.00
Stone-crusher and Steam-engine	3,000.00
Nine Snow Ploughs	135.00
Two Stone Rollers	300.00
Four Sleds	300.00
One Wagon	250.00
	$11,970.00

Respectfully submitted.

GEORGE L. CADE,

Superintendent of Streets and Drains.

REPORT

OF

THE CHIEF OF POLICE.

OFFICE OF CHIEF OF POLICE,
CAMBRIDGE, *Dec.*, 1869.

To the Honorable the Mayor and Aldermen of the City of Cambridge: —

GENTLEMEN, — I have the honor to submit my Sixth Annual Report, giving a synopsis of the doings of the Department for the year ending Nov. 30, 1869.

I have to speak of no important changes either in the general arrangement or in the management of the Department. With here and there an exception, the force has been efficient and skilful, and the discipline good; and these exceptions have resulted from a want of interest and fidelity, rather than from want of knowledge as to duty.

My aim has been to give vigor and increased vitality to the whole organization; removing obstacles to its harmonious and efficient action; and guarding with care against every discordant element that has a tendency to divert the force from its legitimate duty. To meet the demands of the rapid growth of our city, faithfulness on the part of every member of the Department is indispensable; and without care and watchfulness, will it be surprising if occasions for complaint frequently arise? The Department is in good condition; yet cases of neglect and inattention to duty have been reported, and changes of some of the men may be made with advantage to the Department.

SYNOPSIS

OF THE DOINGS OF THE DEPARTMENT FOR THE YEAR.

Whole number of arrests		1411
Males	1234	
Females	177	
Residents	1052	
Non-residents	359	
Adults	1279	
Minors	132	
Whole number of lodgers		1204
Males	1102	
Females	102	
Total number		2615

Nature of Offence.

Adultery	3
Arson	1
Assault and battery	177
Assault on officers	12
Attempt to rescue	4
Aiding prisoners to escape	2
Bastardy	5
Breaking and entering	19
Cruelty to animals	3
Carrying concealed weapons	2
Common beggars	1
Common drunkards	22
Drunkenness	626
Disturbing peace	103
Disturbing public schools	10
Escaped convicts	5
Embezzlement	2
Fornication	3

False pretences	1
Felonious assault	1
For not recognizing	1
Insanity	22
Keeping disorderly house	4
Keeping liquor nuisance	8
Keeping unlicensed dogs	3
Keeping dangerous dog	1
Larceny	94
Lewdness	1
Malicious mischief	77
Malicious trespass	2
Making burglarious tools	1
Night-walking	2
Obstructing horse-cars	3
Prize fighting	2
Rape	1
Receiving stolen property	5
Robbing hen-roost	2
Robbing clothes-line	2
Surety of peace	25
Suspicious persons	3
Stealing ride	1
Surrendered by bail	2
Stubborn and ungovernable	8
Truants, habitual	21
Vagabonds	35
Violation of Lord's day	35
Violation of city ordinances	48

The above table shows a slight falling off from the number of arrests, and an increase of the number of lodgers, as compared with the previous year. The rapid increase of lodgers, *or tramps*, who go about from place to place, most of whom are vagabonds and intemperate persons, and generally a miserable class of creatures, loathsome and filthy: the keeping of such renders it almost impossible to keep the cells of our station-houses in a tolerable state of cleanliness.

I submit, for your information, a table showing the increase of arrests and lodgers during the six years I have been connected with the Department.

For year	1864	1045	arrests,	421	lodgers.	1466	total.
" "	1865	1159	"	557	"	1716	"
" "	1866	1287	"	952	"	2239	"
" "	1867	1170	"	1006	"	2176	"
" "	1868	1419	"	1136	"	2535	"
" "	1869	1411	"	1204	"	2615	"

To wateh and ward, to keep the publie peace, to prevent violations of the laws and ordinances of the eity, are among the important duties required of the poliee officer; yet the prevention of erime is equally important, if not paramount; and the sagaeity and skill to deteet the eriminal that he may be brought to condign punishment is the highest order of police attainment; not, however, to be acquired by experienee wholly, — it must be intuitive; and being so possessed may be strengthened by experienee and observation.

To be a suceessful officer requires coolness, taet, ingenuity, address, and a fixed determination of purpose and eourage to overeome obstacles which constantly arise in the discharge of his duties. So many there are always ready to abuse the whole poliee force, from the chief downward; a tremendous outery is made over the least slip or mistake made by polieemen, while the circumstanees which tell in their favor are too often lost sight of, or left unreeorded altogether. Due allowance should be made in favor of the poliee, who are often insulted, and not unfrequently assaulted, — they virtually earry their lives in their hands.

I urgently recommend the appointment of the two men whom your Board voted, during the early part of the year, to cover the beats made vaeant by the removal of two patrolmen to the poliee stations: they are greatly needed, and if appointed, the publie will be benefited thereby.

The sanitary condition of the city has been far better than in years past, owing in part to the vigilanee of those whose duty it has been to look to the eity's interest. Early in the season, the

Board of Aldermen appointed three officers of the police to make thorough and systematic examination of their several districts, with a view to its sanitary condition, and report the result; and it is but justice to add, that these duties were performed in a very satisfactory manner, and the result has fully established in my mind the importance of similar inspection from year to year, inasmuch as it has been accomplished without extra expense to the city, and a general satisfaction has been expressed by those who have the welfare of the city at heart. Much of my time has been devoted to visiting premises reported, and in many cases having personal interviews with the owners of property as regards the same; and, as a general thing, prompt responses have been made by the parties so notified or waited upon personally; yet a total neglect by some has been manifested, and threatening language and abuse heaped upon him who has endeavored to perform that duty only which came within his province.

On the first day of April, a horse and vehicle was purchased by the city, at a cost of seven hundred dollars, for the purpose of conveying prisoners daily from the several police stations to the Police Court, and to the House of Correction, Jail, and Workhouse, from which there has been derived an income to the city; viz.: —

Amount received for conveyance		$700.50
" paid horse-keeping, 34 weeks . . .	$204.00	
" " shoeing	17.67	
" " veterinary services	14.00	
" " extra horse hire	16.00	
	———	251.67
Balance in favor of city for eight months		$448.83

There has been paid into the City Treasury during the year the sum of $3,050.65, being the amount received for my services on warrants and in attendance at Police Court, and for the fees of officers as witnesses in criminal cases.

I have made 264 details during the year for extra and special duty, and this service (with one exception) has been cheerfully and promptly responded to by the officers.

The year has been one of remarkably good order and quiet. I reiterate the remark made in my last Annual Report, and it will be seen by reference, that more than twenty-five per cent. of our arrests are non-residents.

It gives me pleasure to say that the major part of the force under my charge are honorable and faithful men, who can be relied upon in an emergency; who believe the duty of a policeman to be an honorable and respectable one; and who do all in their power to make it so. Such men are entitled to the thanks of their superiors, and the support and confidence of the public.

Respectfully submitted.

FORDYCE M. STIMSON,
Chief of Police.

REPORT

OF

ROLAND LITCHFIELD,

SUPERINTENDENT OF LAMPS.

To his Honor the Mayor and Board of Aldermen of the City of Cambridge: —

GENTLEMEN, — I herewith submit my Annual Report in relation to the Lamp Department.

The number of Street Lamps is as follows: —

District One,	214 gas,	3 fluid.		
District Two,	217 gas,	60 fluid.		
District Three,	77 gas,	35 fluid.		
	508 gas,	98 fluid.	Total . .	606

Twenty-five of the above were added during the year.

The following is an exhibit of the expenses of the Street Lamps for the year: —

For gas	$8,244.02
For lighting	3,367.63
For fixtures and repairs	982.97
For naphtha, matches, wicking, &c. . . .	526.32
For glass, putty, &c.	380.85
For salary of Superintendent	200.00
	$13,701.79

The average cost for each lamp burning gas was six cents per night, and the average cost of each lamp burning fluid or naphtha was two and one-third cents per night.

Respectfully submitted.

ROLAND LITCHFIELD,

Superintendent of Lamps.

CAMBRIDGE, *Dec.* 1, 1869.

REPORT

OF

JOSIAH G. CHASE,

CITY ENGINEER.

OFFICE OF CITY ENGINEER, *Dec.* 22, 1869.

To the City Council: —

GENTLEMEN, — In compliance with the seventh section of the Ordinance passed Dec. 30, 1868, relating to the department of Engineering and Surveying, the following Third Annual Report is respectfully presented.

Sewers.

The necessity for thorough and effective systems of drainage, in a city geographically large and unfavorably situated, as is the city of Cambridge, has received proper and commendable consideration by the present City Government, as will appear from the liberal appropriations made, and the judicious progress attained, towards the accomplishment of this desirable object. Should similar views prevail in the future, but few years will elapse before the plans adopted will be complete, and the long-continued complaints of over-burdened sewers will cease. In the execution of these purposes, and to meet the demands which will undoubtedly be made, large appropriations must continue.

The increasing importance of the great benefit derived, the public health, the growth and future welfare of our city, imperatively require it, and the improvements so auspiciously commenced should receive no check. In this connection, I can but renew the suggestions made in former reports as to a sewer in Harvard Street, with receiving basin, and one in North Cambridge. Drainage of the large section of the city lying north of Cambridge Street, and

east of North Avenue, has been provided for by the City Government, as will be referred to hereafter.

During the past season the construction of sewers has been committed to the direction and supervision of the City Engineer, and the following have been built: —

	Feet.
In Cambridge Street, from First to Third Streets	762
In Harvard Square	250
In Ellery Street, from Broadway Sewer to near Harvard Street	486
In Brookline Street, extension from Valentine Street to Erie Street	384
In Craigie Street, extension northerly to near Berkeley Street	325
In Pearl Street, extension from Perry Street to a point 48½ feet north of William Street	607
In Auburn Street, from Brookline-street Sewer to the centre of Pearl Street	472
In Broadway, from Cross Canal to the centre of Davis Street	1614¼
In Davis Street, extension of last named to near Harvard Street	250
In Linnæan Street, from Garden-street Sewer to Bowdoin Street	1488
In Phillips Place, Berkeley Street, and Craigie Street, from Mason-street Sewer to centre of Concord Avenue	1852

Pipe sewers have been built by the Superintendent of Sewers and Drains: —

In Prison Point Bridge Street, from Bridge-street Sewer northerly	556
In Broadway, connecting sewers near Inman Street	140
In Putnam Street, completion of sewer	282

The above named sewers have been built of various sizes and materials, the capacity of each adapted to its locality, but controlled by circumstances preceding their construction. The details are given in former reports, and upon the plans prepared for assess-

ment and record. In addition, the city has contributed the covering stone as its proportion of the cost of building a sewer in State

Street, extension from Front-street Sewer	300	feet.
In a new street leading from North Avenue	104	"
In Auburn Court, extension from Auburn-street Sewer	80	"
In Bigelow Street, extension from Main-street Sewer northerly, and from Harvard-street Sewer southerly	919	"

These have been built by parties abutting upon said streets. The same now become public sewers, and are subject to control by the city.

In connection with the above, as enumerated, there have been built thirty-six catch-basins, or cesspools, five man-holes, and two tide-gates.

Total expenditure for sewers and drains, not including any portion of the cost of the four last named built by the abutting owners, is $25,411.99. Total length of sewer built the present season, and completed on the 30th of November last, twelve thousand two hundred and eighty-two (12,282) feet. On the 30th of March last, a contract was executed in behalf of the city, with Mr. Charles Linehan, for the building of the Oxford-street Sewer, so called. Work was commenced upon the same on the 11th of May last, and by the terms of said contract the whole should have been completed on the first day of November last. On the 30th day of November, but 1411$\frac{3}{4}$ feet of the full length (5039 feet) of the same had been completed. The obstacles encountered in the prosecution of this work have been sufficient to form plausible excuses for some delay, but not to explain its present condition, which indicates a total want of energy on the part of the contractor. The rock met with has been of such a nature that more than one-half of the quantity has yielded to the common appliances for earth excavation without the use of powder, and the work of blasting and removing debris has been conducted without regard to economy or the exercise of proper judgment. Rock-cutting was commenced on the 16th of July last, and without unusual effort should have been fully removed within six weeks from that date. It is not, at the date of this Report, completed; and the amount displaced and removed within the space of over five months does not indicate a capability to carry forward such an undertaking promptly, or

economically. The terms of the contract have been disregarded by the contractor, and the progress made has never been satisfactory. Should the same party continue the work its completion may not be easily foretold; but in other hands it would be reasonable to expect a more favorable result early in the next season. Details of construction will more properly be reported when the work is finished.

No compromise has been made by way of remunerating the contractor for extra cost of rock excavation, over and above the cost for excavating material anticipated, nor is it yet determined what sum, if any thing, he is entitled to. There has been paid upon estimates of the proportion of sewer completed (reserving twenty per cent.), prior to Nov. 30, the sum of nine thousand eight hundred and ten and $\frac{34}{100}$ dollars ($9,810.34), which added to other amounts for sewers and drains, makes the total expenditures for the year, thirty-five thousand two hundred and twenty-two and $\frac{33}{100}$ dollars ($35,222.33).

In accordance with an order passed Dec. 1, there is now under contract and in process of construction, by Mr. Samuel Palmer, a box drain of about 1000 feet in length, extending from Miller's River along the easterly side of land of the Boston and Albany Railroad to Cambridge Street. This is being built in the most substantial manner, and of sufficient capacity to form a trunk outlet for some considerable portion of East Cambridge drainage, with a part of the marsh lands now being reclaimed, and a large territory west of the Boston and Albany (formerly Grand Junction) Railroad. The proposed filling of their land by said railroad company causes this sewer to be built at this unfavorable time.

Streets.

Six streets have been laid out and accepted as public streets the past year as follows: —

Ellery Street, from Cambridge Street to Broadway.
Bigelow Street, from Main Street to Harvard Street.
Charles River Street, from Mount Auburn Street to Dyke Street.
Douglass Street, from Main Street to Austin Street.
Ellery Street, from Main Street to Harvard Street.
Vine Street, from Third Street to Fourth Street.

An important regulation has been adopted by the Committee on Roads and Bridges the past year. Before accepting streets, plans have been required of uniform size and scale, containing the requisite facts in detail to be of value to the city as a record; and also a profile of the street upon which the grade is established, imparting the necessary information for reference in future improvements.

A detailed survey of North Avenue has been made, and plans and profiles of the same submitted for determining the lines and grades of said avenue, from the Fitchburg Railroad Bridge to Arlington line. The necessary action has been taken by the City Council to render this step of much value hereafter to the city, in placing upon plans and upon the ground, fixed and permanent lines and bounds for this thoroughfare. Very extended improvements upon streets and sidewalks the past season have necessarily required a considerable portion of time from the City Engineer, in determining and giving lines and grades for the same, and in the preparation of plans for stone-work.

Surveys of the streets within the territory bounded by Main, Pleasant, Cottage, and Brookline Streets have been completed, and lines determined: but the plans are not finished.

Orders passed by the City Council directing surveys to be made of the Washington Street District, as provided by Act of the Legislature passed June 12, 1869, have received careful attention.

All outline surveys and levels are completed; and when a summary of ownership and title is received, the matter will be finished in detail, and fully reported to the government.

An ordinance has recently been passed intended to protect the public streets from encroachment. With proper precaution on the part of individuals, and judicious enforcement of the requirements of said ordinance, it is just to infer that the time is not now distant when this long-existing tendency to unlawful possession may be terminated, and public streets restored to their integrity.

No inconsiderable portion of the time of the City Engineer has been required the past season in answering the requirements of the ordinance passed Nov. 24, 1868, in amendment of an ordinance entitled "An Ordinance in relation to giving notice of intention to build."

Public Park.

The Park in Ward II., referred to in my last Report, yet remains in an unfinished state. The iron and wooden fences have been completed in a satisfactory and durable manner. The westerly portion of the grounds has been graded, and a variety of shade-trees planted. The easterly portion, however, yet remains in an uninviting, if not unprofitable, condition, and should be made to assume a different aspect at an early date. The gateway should be completed, and the walks properly gravelled, so that the design for an ornamental park may be fulfilled.

Water Works. — Cemeteries.

But little has been done the past season in extension or improvement upon Water Works and Cemeteries. Infrequent calls have been made for service from the City Engineer, and of such nature as to require no mention here.

Bridges.

Early in the present municipal year, the City Council took definite action with reference to rebuilding, in some modern and durable manner, the West Boston Bridge Draw.

Plans for the improvement upon different modes, were presented to the Joint Standing Committee on Roads and Bridges, having the matter in charge, and much time and labor were by them devoted to their investigations. A plan for a pivot draw, with specifications prepared in this office, was finally determined upon and recommended to the City Government, which adopted it. Proposals were solicited for the building of said draw; several were received, and a selection from the bids was made. The substantial portion of moneys to defray the expense of the same was appropriated by the City Council; but the plans and intentions of the Committee, and of the City Government, were doomed (with the expectations of the general public) to suffer the delays and annoyances attendant upon the present old dilapidated structure, for another term. The conditions imposed upon the adopted plan of foundations by the Harbor Commissioners, were such as to meet with general disfavor, not only of the City Government, but

of practical and scientific men. These restrictions, and the proposed change of location by moving draw and pier westward, as insisted on by them, increased the cost so enormously that the contemplated structure was abandoned for the present year. Certainly, it is to be hoped that more moderate counsels may prevail, in order that the work shall not too long be delayed.

During the months of October and November last, examinations, surveys, and estimates were made, obedient to an order directing the same, to determine the condition of the Cambridge and Brookline Bridge. This bridge was laid out as a public highway, by Act of the Legislature passed April 13, 1869; which act also provides for the appointment of Commissioners by the Supreme Judicial Court, to determine as to its character and condition, the repairs upon it deemed necessary, its future maintenance, &c. The result of the examination made by experts is totally unfavorable to the continuance of the bridge in its present condition, open to public travel for any longer period; and the facts have thus been presented to the said Commissioners investigating the same. The conclusion of such investigation is yet unknown; but it is fair to presume that upon the city of Cambridge will devolve, at least in part, its future care and maintenance. Large expenditures will be required, and must at once be made upon it, to place the same in safe condition for public travel. The source from whence the necessary funds for this purpose are to be derived will be determined by said Commissioners, and may not seriously deplete the appropriations for bridges necessary to be made the coming year.

Office.

In the last Annual Report allusion was made to the provisions in preparation for the convenience of the department of Engineering and Surveying. It is gratifying to state, that since early in the season the apartments prepared for this purpose have been occupied and are arranged especially for convenience, and for safety of the plans and records of the office.

Ready reference is at hand for imparting information pertaining to the duties of City Engineer and Surveyor, and acceptable conveniences for committees requiring the services of the Engineer, or

use of the plans under his charge. Several of the plans prepared this year have required much time and labor. During the past year, an Assistant has been constantly employed, and at other times such help as was required for the performance of the work to be done, and possible to obtain temporarily. In addition to an Assistant, seven different persons have been employed, for such time as their services were needed, an average of two constantly.

Expenses.

Salary of City Engineer	$1,800.00
Salary of Assistant	1,200.00
Paid other help, conveyance, stationery, drawing paper, and materials, repairs on instruments, office rent, &c.	1,332.86
Total	$4,332.86

Respectfully submitted.

J. G. CHASE,
City Engineer and Surveyor.

ANNUAL REPORT

OF THE

TRUSTEES OF THE DANA LIBRARY.

In presenting their Twelfth Annual Report to the City Council, the Trustees of the Dana Library would first express their appreciation of the service rendered to the institution by the recent passage of the ordinance requiring that certain moneys when paid into the Treasury shall be devoted to the general purposes of the Library. As this Report is intended for publication, it may be well to explain briefly the origin and intent of the ordinance. The law of the State for many years has required that all dogs be licensed by the city or town in which they are owned, and that the fees received for licenses be paid into the county treasury, to defray expenses caused by the ravages of dogs. A statute was enacted the present year providing that if there be any funds remaining in the county treasury after meeting the expense referred to, it shall be returned to each city and town in proportion to the amount furnished by each. The money thus returned is, by the ordinance, devoted to the Library. What the amount will be it is impossible to conjecture; but, be it much or little, it will be gratefully received and cheerfully applied. The Trustees anticipate the happiest results from the enactment that requires the dogs to contribute to the enlightenment of the people.

The Trustees perform a mournful duty in announcing to the City Council the recent death of one of their number, Dr. Anson Hooker, of East Cambridge. Dr. Hooker served for many years very acceptably upon this Board. His public spirit and benevolence, his disinterested devotion to works of sympathy and charity throughout a prolonged life, endeared him to the hearts of our

people. The decease of such a man creates a void in the community that cannot well be filled.

During the year ending Nov. 30, 1869, three hundred volumes have been added to the Library. Of this number two hundred and forty-two were received from the city; twenty-two from Hon. Samuel Hooper; twenty-eight from Mr. H. O. Houghton; two from Mr. J. B. Wiggin; one each from Mr. J. S. Orne, Mr. Charles Deane, Mr. L. Prang, Hon. Charles Sumner, and Mrs. George Livermore. A Catalogue and Supplements from the Waltham Library; a Report from the Taunton Library; and Report and Bulletins from the Boston Public Library; also six numbers of the "Historical Magazine." These additions are exclusive of pamphlets.

The whole number of volumes belonging to the Library, not including pamphlets, is forty-one hundred and thirty-three.

Large additions could, no doubt, be made to the number of books, without involving either sacrifice or expense, if the citizens would thoughtfully bear the institution in mind. In a community like ours there are probably thousands of dwellings that contain books, both useful and entertaining, which — having become disused, though neither mutilated nor defaced — are laid aside and forgotten. Such books placed upon our shelves would be joyfully welcomed by our readers, and prove a great accession to our catalogue. We trust our citizens will improve the opportunity here pointed out.

Amount received from subscribers during the year . .	$268.00
" " " fines " " . .	10.90
" " " sale of catalogues	7.00
Total receipts	$285.90

All of which has been paid into the City Treasury.

Number of books put in circulation	9498
An average per week of	190
The largest number in any week being	268
" " " day "	151

Amount of City Appropriation for Library	$1,500.00
Amount expended to Nov. 30, end of financial year .	1,185.20

Expenditures.

Librarian, salary	$250.00	
Assistant Librarian, salary . . .	32.00	
Rent of room, $250; care of same, $125	375.00	
Books and stationery	413.18	
Binding books, $34.07; printing, $17.50	51.57	
Insurance, $20; gas and water rates, $42.05	62.05	
Fuel and incidentals	1.40	
		$1,185.20

In her Annual Report to the Trustees, the Librarian says, "The Library continues to be largely used by the younger portion of the community, and is increasingly consulted for information by those older. A higher class of books is now read, and a demand made for a somewhat wider range of works. As a whole, the books have been carefully handled, though a very reprehensible practice prevails of tearing out the fly-leaves, which soon causes the volume to need rebinding. Some of the gravest offences have nearly ceased."

The Appendix to the Catalogue, the need of which was mentioned in the last Report to the City Council, has been prepared, and is now in the hands of the printer. We hope to have it for use in a few weeks.

Respectfully submitted.

CHAS. H. SAUNDERS,
HENRY W. MUZZEY,
CHARLES DEANE,
JOHN S. MARCH,
W. W. WELLINGTON,
G. A. SMART,
Trustees of the Dana Library.

Cambridge, *Dec.* 29, 1869.

REPORT

OF THE

TRUSTEES OF THE DOWSE INSTITUTE.

To the Honorable City Council of Cambridge:—

THE Board of Trustees of the Dowse Institute would respectfully report:—

Lectures were given during the last season by the following persons:—

Albert S. Bickmore; Governor J. L. Chamberlain; Ralph Keeler; George W. Curtis; Ralph Waldo Emerson; Edward E. Hale; Edwin P. Whipple; Lucy Stone.

Readings were given by Mrs. Scott-Siddons, George Vandenhoff, and Henry Nicholls.

A Vocal and Instrumental Concert was given by the Mendelssohn Quintette Club.

The accompanying copy of the Annual Report of the Treasurer contains a statement of receipts and expenditures. The following is an abstract of said Report:—

Dr.

To paid for lectures, concerts, and readings	$1,035.00
" " " printing and advertising	43.38
" " " care of hall, door-keepers, &c.	74.00
" " " stationery, stamps, &c.	5.00
	$1,157.38
To balance to new account	73.88
	$1,231.26

Cr.

By balance from last account	$131.26
" interest, city of Cambridge	600.00
" sale of tickets	500.00
	$1,231.26

Respectfully submitted.

CHARLES DEANE,
CHAS. H. SAUNDERS,
HENRY W. MUZZEY,
W. W. WELLINGTON,
} *Board of Trustees.*

CAMBRIDGE, *Dec.* 28, 1869.

REPORT

OF THE

TRUSTEES OF THE SANDERS TEMPERANCE FUND.

The Trustees of the Sanders Temperance Fund, in compliance with an ordinance of the city, herewith respectfully submit to the City Council their Fifth Annual Report for the financial year ending Nov. 30, 1869.

During the past year the design of the donor has been carried out, as far as possible, by the appointment of a Missionary, of kind and humane feelings, to attend daily the sessions of the Police Court, and also to search out all cases of intemperance, where the sympathetic word and wise counsel may alleviate in some measure the sufferings, and, if possible, reform those addicted to this vice.

Rev. William R. Stone was re-elected Missionary by the Trustees, at their quarterly meeting in April last, and we believe he has endeavored to serve faithfully the cause for which this bequest was made to the city.

The fund from which this income is derived amounts to the sum of ten thousand dollars, and remains invested, the same as last year, in the notes of the city bearing six per cent. interest, payable quarterly, the whole of which has been paid to the Missionary.

The evils of intemperance can hardly be overstated, and it still remains problematical how and in what manner best to arrest them. A larger income is much needed to make this agency successful; and a fund, enabling pecuniary assistance to be rendered in certain cases, would, we think, be a great incentive to a permanent reform of the fallen.

The practical carrying out of the wishes of the donor of this trust of course devolves upon the Missionary, who has given in his Report the result of his labors the past year, with the present condition of the cause he has served, and the discouragements encountered, which we append to our brief Report for the information of the City Council.

Respectfully submitted.

CHAS. H. SAUNDERS,
HENRY W. MUZZEY,
HENRY O. HOUGHTON,
ALVARO BLODGETT,
JAMES H. HALL,
} *Trustees of the Sanders Temperance Fund.*

CAMBRIDGE, *Dec.* 15, 1869.

REPORT

OF

REV. WILLIAM R. STONE,

SANDERS TEMPERANCE FUND MISSIONARY.

To his Honor the Mayor, and the Honorable Board of Trustees of the Sanders Temperance Fund.

THE undersigned would respectfully submit this his Annual Report: —

The labors of your Missionary have not varied much during the year just closing, either in kind or degree, from those of other years in the same field. Under the guidance of the same kind and powerful hand which has always upheld and strengthened him, he has been enabled to pursue his work of seeking out and endeavoring to reform the intemperate. This has been done in the court-room, the prison, the dwelling, and the street, wherever any were found that needed the benefit of his labors.

The number on my list who have been individually approached, during the year, is three hundred and seventy-six. These have all promised amendment, and have given a pledge of total abstinence.

With all our efforts to wean men and women from the vice of intemperance, it is still painfully apparent that the love of strong drink prevails among us to an alarming extent, and calls for every measure which philanthropy can devise to stay its progress. After all we have done or can do, our trust must be in God, who has the hearts of all men in his hand, to prosper our labors and crown them with success.

I would record my thanks to the members of the City Government, and the City Police, for their kindness and assistance to me in furthering my labors.

I am, gentlemen, very respectfully yours,

WILLIAM R. STONE.

CAMBRIDGEPORT, *Dec.* 10, 1869.

REPORT

OF

ENOCH J. HOWLETT,

MILK INSPECTOR.

To his Honor the Mayor and the Aldermen of the City of Cambridge: —

The undersigned would respectfully submit his Second Annual Report for the year ending Dec. 1, 1869: —

The milk trade of the city is divided into three classes: 1st. Those dealers who sell from wagons or carriages. 2d. Those dealers who sell from their stores or shops. 3d. Those who keep cows, and sell to the families in their neighborhood.

There have been recorded the names and residences of dealers selling from wagons and carriages 8
There have been recorded the names of dealers who sell from their stores or shops 18
There have been recorded the names and residences of persons keeping cows within the city 21
Whole number of dealers who sell from their wagons or carriages, registered 32
Whole number of dealers who sell from their stores or shops, registered 121
Whole number of persons keeping cows within the city, registered 44
Whole number of cows kept by those persons, registered . . 65

All places where milk is publicly sold in the city have been visited and the milk inspected. I have promptly answered every call to inspect the milk left at the houses of citizens, — the num-

ber of these having been more frequent than last year, — and in each and every case have taken such measures as I thought would secure an improvement of the quality of the milk delivered.

During the year my attention has been frequently called in consequence of the souring of the milk soon after its delivery by the dealer, which, I think, is caused by not taking sufficient care in cleaning the cans, and in not giving sufficient length of time for the animal heat to pass off before placing the milk in the cans for market. Another reason which I give, is the manner or mode of keeping the milk by those dealers who receive their supply of milk from the depot on the morning previous to its delivery to the consumer; that is, the mixing of the whole mass in large tanks, or coolers, and replacing it in cans the next morning for delivery. Your Inspector is of the opinion that the milk should not leave the cans until it is sold, and if this precaution was taken, the milk would remain good and sweet twenty-four or even thirty-six hours.

Many of the milkmen have small cans, which are filled from the larger ones to suit their customers, and left at an early hour. Never should the milk be allowed to remain in the cans left by the milkmen, as it is impossible, if the cans be in constant use, to keep them sufficiently cleansed and aired for the milk to remain in them good and sweet.

In most of the stores where milk is sold it is retailed from the cans in which it is left by the milkmen, and in many of those places sufficient care is not taken to agitate the milk; and those persons who are first served obtain all the best milk, and the last receive poor skimmed milk, for which they pay the same price. These complaints can easily be prevented by stirring the milk and bringing it all to a uniform quality before supplying the customer. By this simple act of justice, dealers will save the needless vexation incident to such complaints.

During the spring months the supply of milk was very plentiful and good, and, in general, free from adulteration; the standard being fully up to that of last year, being 18° specific gravity. As the season advanced, the supply was more limited and the demand was greater, and unusual means were resorted to by the milkmen to enable them to supply their regular customers. I have known some of them paying as high as one dollar a can of eight quarts. Com-

plaint was made by the milkmen that the milk was adulterated when received by them at the depot. A can was brought me for inspection direct from the depot, which I found not only "extended" by water, but almost entirely destitute of cream.

Respectfully submitted.

E. J. HOWLETT,
Milk Inspector.

REPORT

OF

SEALER OF WEIGHTS AND MEASURES.

To his Honor the Mayor and the Aldermen of the City of Cambridge:—

THE undersigned submits the following Report for the year ending Dec. 1, 1869:—

During the year I have visited all stores, shops, manufactories, and places where scales, weights, or measures have been in use either for buying or selling, and have tried, proved, adjusted, and sealed all scales, weights, or measures found in use in said places.

Number of places visited	276
" " scales sealed	480
" " weights sealed	1719
" " measures sealed	1226
" " charcoal baskets sealed	41

Schedule of City Property contained in the Office of the Sealer of Weights and Measures.

One set Avoirdupois Weights.
" Balance.
" set Standard Dry Measures.
" set Standard Wine Measures.
" Brass Yard Measure.

All contained in one cabinet. Also,

One working set Avoirdupois Weights.
" " " Dry Measures (copper).
" " " Wine Measures (copper).
" wooden Yard Measure.
" pair Try Scales.

Twenty fifty-pound Weights.
One Drill Stock and Drills.
" Hammer.
" Mallet.
" Wrench.
" Knife.
" Screw Driver.
" pair Nippers.
" " Cut Nippers.
" Brand, letter C.
" " two letter C.
Three Stamps, letter C.
" Cases.
Half bushel Flax Seed.
Small quantity Shot.

E. J. HOWLETT,
Sealer of Weights and Measures.

REPORT

OF THE

CAMBRIDGE WATER BOARD.

As required by an ordinance of the City, the Cambridge Water Board herewith present to the City Council their fifth

ANNUAL REPORT,

Embracing a statement of the progress and present condition of the Works, together with an account of the receipts and expenditures, clearly demonstrating the fact that, without any increase of water-rates, the receipts hereafter will be sufficient to pay the expenses and interest, and pay into the Sinking Fund a sum sufficient to meet the requirements of the law.

The cost of the Works, April 28, 1865, was . .	$291,480.00
Expended for extension of the Works for the year ending Nov. 30, 1866	88,185.74
Expended for extension of the Works for the year ending Nov. 30, 1867	188,625.06
Expended for extension of the Works for the year ending Nov. 30, 1868	160,496.38
Expended for extension of the Works for the year ending Nov. 30, 1869	99,313.51
Total cost of the Works, Nov. 30, 1869 .	$828,100.69

Receipts from water-rates for the year ending Nov. 30, 1869	$76,149.30
Receipts from water-rates for the year ending Nov. 30, 1868	63,747.42
Increase of water-rates	$12,401.88

Receipts from all sources for the year ending Nov. 30, 1869		$91,347.92
Receipts from all sources for the year ending Nov. 30, 1868		79,434.56
Increase of receipts in 1869		$11,913.36
Total Cash Receipts for the year ending Nov. 30, 1869		$91,347.92
Expended for care and repair account	$20,082.91	
Expended on supply account	13,465.91	
Interest	46,344.00	
		79,892.82
Balance unexpended		$11,455.10

For a more detailed statement of the financial account of the Works, we would refer you to the accompanying Report of the Water Registrar.

The Sinking Fund established for the final liquidation of the Water Bonds amounted on the first day of July, 1869, to $27,726.44.

Since the first of April last no Superintendent has been employed, but the work has been performed under the direction of different members of the Board.

A new coal shed has been built upon land proposed to be conveyed to the city by Jacob Hittinger, Esq. The rear wall around the engine-house has been relaid, and the old pumps have been connected with the new well-room.

The twelve-inch pipe, which formerly connected the pumps with the reservoir, has been taken up, and laid down in North Avenue and Everett Street, and it is intended to continue the twelve-inch pipe through Oxford Street from Everett to Sacramento Street, there to connect with the six-inch pipe in Sacramento Street as soon as the main drain shall be completed through Oxford Street, it not being deemed safe to lay it before.

In the progress of the work the present year we have laid of

12-inch pipe	2,131 feet.
6-inch pipe	14,972 "
4-inch pipe	16,075 "
3-inch pipe	1,229 "
$1\frac{1}{2}$-inch pipe	130 "

Total amount of pipe laid, 34,577 feet, or about six and three-quarter miles.

It will be perceived that the Board have adopted the practice of using larger sized pipes than heretofore, believing it to be for the interest of the city.

The reservoir, of the permanency of which there was some apprehension at the time of presenting our last Annual Report, proves to be a very substantial structure, and we feel confident will give entire satisfaction.

The new pumps, which at the close of the last year had not been fully tested, have been in constant use, their weak points have been developed, and all necessary repairs made promptly by and at the expense of the Contractors, and we are confident that we now have the machinery in most perfect order, completed fully up to the terms of the contract.

The care and repair account is somewhat increased over that of former years, but, as an offset, this increase is more than compensated for in the excess of coal on hand over that of the previous year, there being on hand at the present time about five hundred and fifty tons against a few tons last year, which leaves the actual expense for care and repairs for the current year less than that of 1868.

Thirty-two new meters have been set in connection with the larger supplies, making the number now in use fifty-eight. Fifty-two fire hydrants have been set, making the whole number now in use one hundred and ninety-three. Four hundred and fifty-six new supply pipes have been put in, making the whole number three thousand five hundred and seventy-three.

The annexed Schedule gives a definite statement of the location of the pipe, and a full description of all branches of work done the present year.

STREETS.	SIZE.	LENGTH.
	Inches.	Feet.
Amory Street, from Broadway	6	547
Antrim Street, from Broadway	6	120
Athens Street, from Mount Auburn Street	4	167
Auburn Court, from Auburn Street	1½	130
Auburn Street, from terminus easterly to connect	4	356
Auburn Street, to connect with Pearl Street	4	111
Bedford Street, from Porter Street	4	222
Bigelow Street, from Harvard Street	6	216
Bigelow Street, from Main Street	6	362
Bixby Place, from Front Street	3	158
Bow Street, from Main Street	4	321
Bowdoin Street, extended	4	306
Brookline Street, from Walnut to Erie Street	6	836
Brookline Street, from Auburn Street south to connect	4	166
Charles River Street, extended	4	327
Columbia Street, from Broadway to Cambridge Street	6	2010
Copperthwaite Street, extended	4	292
Dyke Street, from Charles River Street	4	143
East Street, from Bridge Street	6	251
Eliot Street, from Brighton Street	4	428
Ellery Street, from Broadway northerly	6	451
Ellery Street, from Main to Harvard Street	6	648
Elm Street, northerly to connect	4	234
Essex Street, from terminus to connect with Main Street	4	120
Everett Street, from Oxford Street to North Avenue, through North Avenue to Holmes Place	12	2131
Follen Street, extended	4	178
Fourth and Vine Streets, to connect with Vine Street	4	175
Franklin Street, from Sidney Street	4	367
Front Street, southerly for Blow-off	3	86
Gilpin Street, from Washington to School Street	6	258
Gore and Bridge Streets, from Fourth Street to Prison Point	6	2505
Green Street, from Sidney to Brookline Street	4	622
Green Street, from terminus across Bay Street	4	463
Green Street, from terminus toward Magazine Street	4	105
Hampshire Street, from Columbia to Winsor Street	6	550
Hampshire Street, from Columbia Street westerly to connect	4	71
Harvard Street, from Columbia to Cherry Street to complete line	4	426
Hilliard Street, from Brattle Street	4	351
Holyoke Street, to connect with Harvard Street	4	106
Holyoke Place, to connect with Mount Auburn Street	3	215
Howard Street, from Western Avenue to River Street	4	515
Inman Street, extended northerly	6	180
Jay Street, from Western Avenue northerly	4	256
Jefferson Street, from Warren Street	4	345
Lambert Street, from Cambridge to Gore Street	6	399

STREETS.	SIZE.	LENGTH.
	Inches.	Feet.
Magazine Street, from Webster to Auburn Street	6	800
Magazine Street, from Erie to Walnut Street	6	871
Market Street, from Columbia to Elm Street	4	180
Marsh Court, extended	3	27
Moore Street, Broadway to Washington Street	6	760
Mount Auburn Street, from Brighton Street westerly	4	210
Mount Auburn Street, from Putnam Street westerly to connect	4	219
Murdock Street, from Hampshire Street	4	244
Norfolk Street, from Broadway to Harvard Street	6	418
Oak Street, from Cambridge to Houghton Street	6	456
Oak Street, from Houghton north to connect	4	612
Orchard Street, from Russell Street	4	319
Oxford Street, from Forest Street northerly	4	265
Oxford Street, from Harris Street southerly	4	257
Park Street, to connect with Pleasant	4	170
Pearl Street, from Allston to Walnut Street	4	334
Pettingill Court, from Second Street	3	116
Porter Street, from Warren Street	4	392
Raymond Street, from Linnæan Street	6	1140
Roseland Street, from Frost Street	4	735
School Street, to connect with Cherry Street	4	103
School Street, from terminus to connect with Main Street	4	152
School Court, extended	3	189
Second and Spring Streets, from terminus to Third Street	4	504
Sixth Street, from Cambridge to Gore Street	4	269
Sixth Street, from Spring to Charles Street	4	489
Spring Street, from Eighth Street westerly	3	45
Spring Street, to connect with Fourth Street	4	66
State Street, from Front to Village Street	4	183
Tenney Court, from Orchard Street	3	302
Thorndike Street, to connect dead ends between Fourth and Fifth Streets	4	100
Tremont Street, from Cambridge to Webster Avenue	4	1068
Trowbridge Street, from terminus to Main Street	4	153
Union Street, from Hampshire Street northerly to connect	4	119
Valentine Street, from Pearl Street easterly to connect	4	283
Walnut Court, from Magazine Court northerly	3	83
Walnut Street, from Magazine to Brookline Street	6	1136
Warren Street, southerly from terminus to connect with Cambridge Street	4	342
Washington Street, from Moore to Gilpin Street	6	58
Wendell Street, from Oxford Street to connect	4	467
Willow Place, from Cambridge Street	4	492
Winthrop Street, from Brighton Street easterly	4	175
Winthrop Street, extended from terminus westerly	3	48

The following gates and blow-off pipes have been set during the year: —

STREETS.	NUMBER.	SIZE.
		Inches.
Bigelow and Harvard Streets	1	6
Bow Street at Reservoir	1	4
Brattle and Hilliard Streets	1	4
Bridge and East Streets	1	6
Brighton and Eliot Streets	1	4
Broadway and Amory Street, in place of 4-inch removed	1	6
Broadway and Antrim Street	1	6
Broadway and Columbia Street	1	6
Broadway and Ellery Street, in place of 4-inch removed	1	6
Broadway and Moore Street	1	6
Broadway and Norfolk Street	1	6
Brookline and Auburn Streets	1	4
Brookline and Green Streets	1	4
Brookline and Walnut Streets	1	6
Cambridge and Columbia Streets	1	6
Cambridge, near Dana Street	1	10
Cambridge and Lambert Streets	1	6
Cambridge and Oak Streets	1	6
Cambridge and Sixth Streets	1	4
Cambridge and Tremont Streets	1	4
Cambridge and Warren Streets	1	4
Cambridge Street and Willow Place	1	4
Columbia and Market Streets	1	4
Fourth and Spring Streets	1	4
Fourth and Vine Streets	2	4
Frost and Forest Streets	1	4
Gore and Second Streets	1	6
Gore and Warren Streets	1	4
Hampshire and Columbia Streets	1	6
Hampshire and Columbia Streets	1	4
Hampshire and Elm Streets	1	4
Hampshire and Union Streets	1	4
Hampshire and Winsor Streets	1	6
Harvard and Cherry Streets	1	4
Harvard and Columbia Streets	1	4
Harvard and Holyoke Streets	1	4
Harvard and Moore Streets	1	4
Harvard and Norfolk Streets	1	6
Hydrant Branch, Bridge and Short Streets	1	4
Hydrant Branch, Everett Street	1	4
Hydrant Branch, Everett and Oxford Streets	1	4
Hydrant Branch, North and East Streets	1	4

STREETS.	NUMBER.	SIZE.
		Inches.
Hydrant Branch, North Avenue and Jarvis Street	1	4
Hydrant Branch, West Boston Bridge	1	4
Linnæan and Raymond Streets	1	6
Magazine Court and Magazine Street	1	3
Magazine and Auburn Streets	1	6
Magazine and Cottage Streets	1	6
Magazine and Short Streets	1	6
Magazine and Walnut Streets	1	6
Main and Bigelow Streets	1	6
Main and Bow Streets	1	4
Main and Cherry Streets, in place of old one removed	1	4
Main and Ellery Streets, in place of 4-inch removed	1	6
Main and Essex Streets	1	6
Main and School Streets	1	4
Moore and Hastings Streets	1	4
Mount Auburn Street and Holyoke Place	1	3
North Avenue and Holmes Place	1	12
North Avenue and Roseland Street	1	4
North Avenue and Wendell Street, in place of old one removed	1	4
Orchard Street and Tenney Court	1	4
Oxford and Everett Streets	1	12
Oxford and Harris Streets	1	4
Pearl and Valentine Streets	1	4
Pearl and Walnut Streets	1	4
Putnam and Mount Auburn Streets	1	4
River and Howard Streets	1	4
School and Cherry Streets	1	4
School and Gilpin Streets	1	4
Second and Cambridge Streets	1	4
Sixth and Spring Streets	1	4
Third and Spring Streets	2	4
Warren and Porter Streets	1	4
Washington and Moore Streets	1	6

BLOW-OFF PIPES.

STREETS.	NUMBER.	SIZE.
		Inches.
Bedford Street	1	1½
Bixby Place	1	1½
Charles River Street	1	1½
Dyke Street	1	1½
Eliot Street	1	1½
Franklin Street	1	1½

STREETS.	NUMBER.	SIZE.
		Inches.
Front Street	1	1½
Green Street	1	1½
Green and Bay Streets	1	1½
Jay Street	1	1½
Jefferson Street	1	1½
Mount Auburn Street	1	1½
Murdock Street	1	1½
Oxford Street	2	1½
Porter Street	1	1½
Raymond Street	1	1½
School Court	1	1½
Sixth Street	1	1½
Tenney Court	1	1½
Wendell Street	1	1½
Willow Place	1	1½
Winthrop Street	1	1½

RECAPITULATION.

2,131 feet	12-inch iron pipe.
14,972 feet	6-inch iron pipe.
16,075 feet	4-inch iron pipe.
1,269 feet	3-inch iron pipe.
130 feet	1½-inch iron pipe.

GATES.

2	12-inch.
1	10-inch.
25	6-inch.
47	4-inch.
2	3-inch.

BLOW-OFF PIPES.

23	1½-inch.

Statement of total number of feet of main and branch pipes, gates, stop-cocks, &c., laid to Dec. 1, 1869 : —

312 feet	36-inch iron pipe.
6,155 feet	24-inch iron pipe.
13,282 $\frac{6}{12}$ feet	20-inch iron pipe.

125	feet	16-inch iron pipe.
17,204	feet	12-inch iron pipe.
12,290 $\frac{6}{12}$	feet	10-inch iron pipe.
5,916 $\frac{6}{12}$	feet	10-inch cement pipe.
600	feet	8-inch iron pipe.
736 $\frac{8}{12}$	feet	8-inch cement pipe.
37,224	feet	6-inch iron pipe.
9,565 $\frac{3}{12}$	feet	6-inch cement pipe.
111,918 $\frac{8}{12}$	feet	4-inch iron pipe.
3,923 $\frac{4}{12}$	feet	4-inch cement pipe.
40,848	feet	3-inch iron pipe.
130	feet	1½-inch iron pipe.

WATER-GATES.

4	24-inch.
4	20-inch.
1	16-inch.
17	12-inch.
10	10-inch.
5	8-inch.
55	6-inch.
185	4-inch.
10	3-inch.

STOP-COCKS.

70	2-inch.
2	1½-inch.

WASTE-GATES.

1	6-inch.
3	4-inch.
5	3-inch.
4	2-inch.

BLOW-OFF PIPES.

185	1½-inch.

Total number of feet of pipe laid, 280,373 $\frac{2}{12}$, or about 53 $\frac{3}{4}$ miles.

Number of leaks in supply pipes, 23.

Number of leaks in main pipes, 133, 103 of which were at the joints, 6 caused by driving-cocks coming out of main pipes, 4 from defective pipes, 4 caused by settlement, 6 leaks in cement pipes, 7 leaks in aqueduct logs, and 3 leaks in blow-off pipes.

Water was blown off main pipes 27 times.

Nine fire hydrants and thirty-five gates have been raised to conform to the change of grade in the streets.

Twenty-eight Burnettized hydrant boxes, and three gate boxes have been put in, in place of old ones decayed.

Whole number of gallons pumped the last year .	588,763,182
Daily average	1,617,481
Average number of gallons pumped to Reservoir and Stand-pipe for each hundred pounds of coal burned	73,877
Average daily decrease	115,274
Amount of coal used during the year	398 tons, 9 cwt., 50 lbs.

To perform this work the services of the pumps are required only eight hours in twenty-four. For five hours the water is delivered into the reservoir at a height of about seventy-three feet, and for three hours it is delivered through the stand pipe at a height of about ninety feet. Although the pumps are registered at a capacity of five million gallons per day, yet the raising that amount of water evidently does not exhaust their capacity, which is the best evidence to be obtained of the perfection and ability of the machinery furnished by Mr. Worthington, under his contract, and of the efficient manner in which the Works have been conducted by our present Engineer, Mr. Thomas G. Bruce.

STATEMENT

OF STOCK ON HAND PERTAINING TO CONSTRUCTION, EXCLUSIVE OF TOOLS.

1	36-inch cast-iron pipe.
2	24-inch cast-iron pipes.
4	20-inch cast-iron pipes.
2	16-inch cast-iron pipes.
10	12-inch cast-iron pipes.
3	8-inch cast-iron pipes.
617	6-inch cast-iron pipes.
594	4-inch cast-iron pipes.
86	3-inch cast-iron pipes.

2	6-inch cast-iron off-set pipes.
5	4-inch cast-iron off-set pipes.
1	24-inch cast-iron Y.
2	24-inch cast-iron $\frac{1}{4}$ bends.
3	12-inch cast-iron $\frac{1}{4}$ bends.
6	6-inch cast-iron $\frac{1}{4}$ bends.
7	4-inch cast-iron $\frac{1}{4}$ bends.
9	10-inch cast-iron $\frac{1}{8}$ bends.
1	8-inch cast-iron $\frac{1}{8}$ bends.
6	4-inch cast-iron $\frac{1}{8}$ bends.
1	24 × 20-inch cast-iron T.
1	24 × 16-inch cast-iron T.
1	24 × 6-inch cast-iron T.
4	20 × 6-inch cast-iron T's.
2	12 × 6-inch cast-iron T's.
5	12 × 4-inch cast-iron T's.
3	10 × 6-inch cast-iron T's.
1	8 × 4-inch cast-iron T.
23	6 × 4-inch cast-iron T's.
2	12-inch cast-iron T's.
24	6-inch cast-iron T's.
1	4-inch cast-iron T.
1	3-inch cast-iron T.
1	20 × 12-inch cast-iron cross.
1	20 × 6-inch cast-iron cross.
6	12 × 6-inch cast-iron crosses.
5	12 × 4-inch cast-iron crosses.
29	6 × 4-inch cast-iron crosses.
25	6-inch cast-iron crosses.
48	4-inch cast-iron crosses.
2	3-inch cast-iron crosses.
2	24-inch cast-iron half sleeves.
1	20-inch cast-iron half sleeve.
1	16-inch cast-iron sleeve.
1	12-inch cast-iron sleeve.
7	12-inch cast-iron half sleeves.
3	10-inch cast-iron half sleeves.
1	10-inch cast-iron sleeve.

2	8-inch cast-iron sleeves.
3	8-inch cast-iron half sleeves.
1	6-inch cast-iron half sleeve.
11	6-inch cast-iron sleeves.
7	4-inch cast-iron sleeves.
1	4-inch cast-iron half sleeve.
7	3-inch cast-iron sleeves.
1	24 × 12-inch cast-iron reducer.
11	12 × 6-inch cast-iron reducers.
3	10 × 6-inch cast-iron reducers.
3	8 × 6-inch cast-iron reducers.
21	6 × 4-inch cast-iron reducers.
7	hydrant frames and covers.
20	gate frames and covers.
5	hydrant bends.
3	3-inch fire hydrants.
5	Burnettized hydrant boxes.
47	Burnettized gate boxes.
4	Burnettized meter boxes.
1	24-inch gate.
1	20-inch gate.
1	16-inch gate.
1	12-inch gate.
1	10-inch gate.
1	8-inch gate.
22	6-inch gates.
9	4-inch gates.
7	3-inch gates.
3	$1\frac{1}{2}$-inch blow-offs.
	972 lbs. lead.
	333 lbs. hemp packing.

All which is respectfully submitted.

JOHN SARGENT,
CHAS. H. SAUNDERS,
ROBERT DOUGLASS,
A. K. P. WELCH,
SAMUEL SLOCOMB,
HENRY W. MUZZEY,
C. W. KINGSLEY,
Cambridge Water Board.

REPORT

OF

THE WATER REGISTRAR.

WATER REGISTRAR'S OFFICE,
CAMBRIDGE, *Dec.* 1, 1869.

To the Cambridge Water Board: —

GENTLEMEN, — In compliance with the provisions of the ordinance for the care and management of the Cambridge Water Works, the undersigned respectfully submits the following Report of receipts and expenditures for the year ending Nov. 30, 1869.

Receipts.

Water-rates	$76,149.30
Supply account for pipe, laying, repairing, &c.	14,150.23
Cash received from Engineer for rent of house	300.00
Cash received for pasturage on land in Somerville	16.00
Cash received from City of Cambridge for old stone	250.00
Cash received from sales of old iron	482.39
Total cash receipts from all sources	$91,347.92

All of which has been paid into the City Treasury.

Expenditures.

The expenditures for the care and management of the Works for the year ending Nov. 30, 1869, have been as follows: —

For care and repairs	$7,492.30
For pumping service	9,732.29
For office expenses	2,857.32
Total amount	$20,082.91
The expenditure on the extension of the Works for the year ending Nov. 30, 1869, was	$99,313.51

The expenditure on supply account for the year ending Nov. 30, 1869, was	$13,465.91
Received for water-rates for the year ending Nov. 30, 1869	76,149.30
Expended for the care and management of the Works	20,081.91
Balance in favor of the Works	$56,067.39

Supply Account.

Cash received on above account	$14,150.23	
Now due	6,878.13	
		$21,028.36
There was reported as due Dec. 1, 1868	$5,314.55	
Since expended	13,465.91	
		18,780.46
Balance in favor of account		$2,247.90

During the year the water has been turned off for non-payment of rates thirty-seven times. Of this number twenty-seven have been let on, leaving a balance of ten still remaining off.

STATEMENT

SHOWING THE NUMBER OF FAMILIES, STORES, MANUFACTORIES, &c., SUPPLIED WITH FRESH POND WATER TO DEC. 1, 1869.

4863 Families.
402 Stables.
272 Hand Hose.
193 Fire Hydrants.
148 Stores.
58 Stationary Engines.
34 Boarding-houses.
29 Reservoirs.
19 Saloons, and Victualling Houses.
19 School-houses.
16 Soap Works.
15 Bakeries.
13 Barber Shops.

13 Fish Markets.
13 Meat Markets.
11 Blacksmith Shops.
10 Furniture Manufactories.
9 Green-houses.
9 Machine Shops.
8 Churches.
8 Printing Offices.
8 Tallow Manufactories.
7 Livery Stables.
6 Photograph Rooms.
5 Banks.
5 Billiard Rooms.
5 Public Halls.
5 Public Houses.
4 Book-binderies.
4 Fire-engine Houses.
4 Fountains.
4 Planing Mills.
4 Police Stations.
4 Horse-railway Stables.
4 Post-offices.
4 Stone Yards.
3 Brush Manufactories.
3 Club Rooms.
3 Harness Shops.
3 Iron Foundries.
3 Laboratories.
3 Slaughter Houses.
2 Bacon Works.
2 Box Manufactories.
2 Carriage Manufactories.
2 Cattle Yards.
2 Chemical Works.
2 Club Stables.
2 Cooper Shops.
2 Cotton-waste Manufactories.
2 Cow Pastures.

2 Depots.
2 Libraries.
2 Nurseries.
2 Oil Manufactories.
2 Tin-ware Manufactories.
1 Beer Manufactory.
1 Bleachery.
1 Boiler Manufactory.
1 Bone Manufactory.
1 Brass Foundry.
1 Brewery.
1 Brick Yard.
1 Cigar Manufactory.
1 City Hall.
1 Currier Shop.
1 Distillery.
1 Gas Works.
1 Gymnasium.
1 Lard Works.
1 Laundry.
1 Lead-pipe Works.
1 Looking-glass Manufactory.
1 Marble Works.
1 Masonic Hall.
1 Organ Manufactory.
1 Piano Manufactory.
1 Reversible Paper Collar Co.
1 Rolling Mill.
1 Sausage Manufactory.
1 Steam Railroad.
1 Stereotype Foundry.
1 Sugar Refinery.
1 Tube Works.
1 University.
1 Vinegar Manufactory.

During the year thirty-two meters have been applied to the premises of water-takers, making the total number now in use fifty-eight; they are attached to a variety of establishments as follows: —

	SIZE OF METERS.						
	⅝ inch.	¾ inch.	1 inch.	1½ inch.	2 inch.	3 inch.	4 inch.
Middlesex Bleachery							1
North, Meriam, & Co.					1		
Boston and Lowell Railroad Co.			1		3		
Leon Goodall & Co.					1		
J. P. Squire & Co.					1		
Beal & Hooper					1		
New England Glass Co.					1		
American Tube Works					1		
Billings & Bullock			1				
Welch, Bigelow, & Co.		1					
Commons Hall	1						
Shawmut Iron Works	1						
Bowman, Grant, & Co.			1				
H. O. Houghton & Co.			1				
Cambridge Laundry			1				
Broadway Glass Works				1	1		
Doe & Charmois				1			
House of Correction					1		
Union Glass Works			2				
Boston Chemical Works					1		
C. L. Jones & Co.			1				
Boston Rolling Mill					1		
Metallic Compression Casting Co.			1				
Miller Crabbie			1				
S. M. Cofran					1		
Edmund Smith			1				
John Wilson & Son			1				
Reversible Collar Co.			1				
B. P. Clark			1				
John Reardon & Sons			1				
Boston Stamping Co.			1				
Brewery			1				
Woodbury & Co.					1		
Braman, Shaw, & Co.				1			
S. C. Calef				1			
A. F. Lemon & Co.			1				
Cambridge Gas Light Co.						1	
L. Kinsley & Co.					1		
George G. Page & Co.			1				
W. E. & B. Simpson			1				
Curtis Davis				1			
Brazier & Whittemore			2				
James C. Davis			1				
Bay State Glass Co.					1		
F. Draper & Co.		1					
Eagle Sugar Refinery					1		
Cambridge Stamping Co.			1	1			
W. A. Jackson & Co.				1			
George Woods & Co.				1			
Prospect House				1			
Union Railway Co.					1		

During the year the premises of each water-taker have been visited, and the examinations made have resulted in the correction of the rates to the advantage of the city.

Respectfully submitted.

A. F. FIFIELD,
Registrar.

REPORT

OF

THE SCHOOL COMMITTEE.

HISTORY OF THE COMMITTEE FOR 1869.

The School Committee of Cambridge consists of fifteen members, yet closes the current year with only fourteen. It has had twenty-five different members during the year. One of these was elected at the municipal election in 1868, resigned, and was subsequently elected to fill the vacancy occasioned by the declination of a gentleman who had been chosen to fill his place. The first named gentleman, however, afterwards resigned a second time, while the latter accepted upon a second election. There have been six conventions of the Committee and Board of Aldermen to fill vacancies; yet, notwithstanding the numerous members and conventions, one ward was unrepresented in the Board for nearly two months, and the Superintendent of Schools performed double duty therein during that time. It may be well to state, for the benefit of the non-resident public at least, that these vacancies have not been occasioned by any direful mortality of its members, but simply by resignations. Of the original number composing the Board at the beginning of the year, only four remain, as monuments of fidelity and persistency, to connect the two ends of the year, and preserve the identity of the Committee. The Statutes of the Commonwealth require that "The School Committee shall annually make a detailed report of the condition of the several Public Schools." That duty we hereby discharge; but it may be an interesting question for the citizens of Cambridge to determine, whose judgment is herein expressed, — whether that of four, fifteen, or twenty-five men. The cause of this disintegration of the

Committee we do not propose to discuss, but simply to state the facts, and leave it for our constituents to ascertain the cause. It is important that they should know the facts, in order that hereafter they may elect persons as members of the Board who will fulfil their implied promise, by remaining thereon the entire year. Probably no year in the past has witnessed so many changes in the Committee occasioned by the resignation and election of members, and we trust the present year will not be paralleled in this regard in the future.

LIMITED FINANCIAL POWER OF SCHOOL COMMITTEES AND ITS CONSEQUENCES.

The Statutes of this Commonwealth provide that the School Committee "shall have the general charge and superintendence of all the Public Schools," and "shall select and contract with the teachers" of those schools. If, however, a school building or room is needed for a school they have no power to procure one. They have the entire control of the school, but none over the condition and repairs of the place where it is kept. If a pane of glass is broken, they have no power to cause the insertion of another; if fuel is needed to keep scholars and teacher in working condition, they have no power to order the same. This is somewhat like the old story of making bricks without straw, and frequently occasions irritations and conflicts between City Councils and School Committees. In towns where all appropriations are made by the people themselves in town-meetings, no such difficulty occurs; but in cities, the City Council determines how much money shall be expended upon the schools, notwithstanding the School Committee is required to make all contracts with teachers, and frequent visits to the schools to ascertain their condition and wants. The Committee, by these visits, must necessarily become acquainted with the condition of the school buildings and yards appurtenant, not only by personal inspection but by having their attention directed thereto by the teachers with whom they are brought in contact almost daily. Our Superintendent, in his Annual Report, calls our attention to the filthy, if not disgraceful, condition of the yards and out-buildings connected with many of our school-houses; and many members of the Board can corrobo-

rate his statement. But admit that here is a task for a Hercules: the Committee are powerless, in the premises; the only remedy they can apply is through the "Circumlocution Office" of the City Council, by blandly suggesting what ought to be done, and leaving it to the judgment and option of that body. It must be apparent to any one, from the very nature of the case, that the members of the School Committee are the best judges of what is needed in the way of school-buildings and their appurtenances. It is not that the Committee seek additional powers and burdens that we call attention to this matter, but that we believe the welfare of the schools would be promoted by a change in this regard.

The limited powers of School Committees, in our cities, relative to the expenditure of money, have occasioned many unpleasant collisions between them and City Councils. Prior to the passage of an ordinance, April 9, 1850, the School Committee of Cambridge were authorized to cause the school-houses to be repaired; but that ordinance revoked in terms such authority, and the Committee were "embarrassed" thereby, and obtained from Hon. Joel Parker a legal opinion relative to their powers in the premises. That opinion was published in connection with the Report for that year; and the Committee say that, "he generously refused to take any compensation," which was certainly very fortunate for the purses of the Committee, as they had no power to obtain such opinion at the city's expense. In 1866, the Committee issued "An Address to the People of Cambridge" concerning a case of corporal punishment in one of our Grammar Schools, intended to give a statement of the facts in the case, and allay the excitement which had arisen in consequence thereof. The printer of the address presented his bill to the city for payment, and the City Council refused to pay it, claiming that the Committee had exceeded its authority in causing the address to be printed. The Committee, on the contrary, claimed that it was but a part of their Annual Report, which the Statutes of the Commonwealth require them to make. Litigation followed, and the city and printer were put to the expense of defending and prosecuting the suit; and it was not till the present year that a final decision was obtained from our Supreme Judicial Court, sustaining the action of the Committee, and giving the printer his debt from the city.

But these conflicts of opinion and action have not been confined to our city. Without naming others, we will cite only the recent case of the "City of Charlestown *v.* George W. Gardner and others," which was a bill in equity, brought nominally by the city, but, of course, in fact, by the City Council, against the School Committee, to restrain them from causing the schools of the city to be kept after the appropriations therefor made by the City Council had been expended. The Court decides that the City Council cannot control the Committee "except by voting to close the schools after they have been kept the time required by statute," which is ten months for the High School, and six for those of inferior grade. The Court very wisely remarks that "the selection of a teacher depends very much upon the amount of compensation which can be offered him;" and "if the City Council could establish the salary, it could thereby greatly narrow the range of choice or even indirectly prevent the possibility of obtaining any suitable instructors." But giving this language its full force, it fails to obviate the difficulty. Teaching has become a profession, and our best teachers earn their livelihood by teaching alone, and consequently their services can only be obtained by the year. "Suitable instructors" can only be hired for an annual salary.

But, notwithstanding this decision, we are not aware that our City Council has repealed an old ordinance, which was evidently designed as a sort of prohibitory law for the government of the School Committee, and has been staring them in the face for more than two decades, and reads as follows: "The School Committee, in distributing the sum annually appropriated by the City Council for salaries of instructors in the Public Schools, shall so fix and graduate the amount of salary of each instructor, that the aggregate amount of all such salaries shall in no case exceed the sum so appropriated by the City Council."

It may be said that the School Committee submit to the City Council their estimate of the amount of money required for the support of the Public Schools, and that their estimate is adopted by the Council; this is generally true, but not invariably. In 1854, what threatened to be a serious difficulty arose in consequence of our City Council refusing to make what the Committee deemed the necessary appropriation for the schools, and in the latter part of the year, ac-

cording to the Committee's Report, an order passed one branch at least of the City Government, directing the closing of the schools and dismissal of teachers, and if we are not mistaken, that calamity was only prevented by numerous and strong petitions or remonstrances of the people themselves. The present year the Committee submitted their estimate of the amount required for building and altering school-houses, and the City Council appropriated $22,500 for that purpose, but with the exception, if we mistake not, of using a part of it in paying for a lot of land, it was not applied as the Committee expected it would be. No new school-house was ordered; and at the beginning of the term in September the Committee found a deficiency of accommodations, and were obliged to call upon the City Council to provide temporary places.

In the nature of the case, the School Committee is as competent to pass upon the amount of appropriations required for streets or sewers, as the City Council is to pass upon the amount required for schools and school-houses. We submit that it is time School Committees were clothed with the power of appropriating the public moneys commensurate with their duties of making contracts which involve the disbursement of them. We wish it to be distinctly understood that we do not make these remarks in a spirit of complaint towards the City Council of this city for the current year; for we are not aware that there has been any particular want of harmony between that body and our Board; and for that very reason, it is especially appropriate that we should call attention to the subject. In stating the law, we have given the practical, municipal interpretation, except where we have decisions of the Supreme Court. Further decisions might modify it, as in the past. A committee, however, which performs its ordinary duties without compensation, will not be inclined to incur the expense of a suit to obtain the Court's construction of the statutes relative to its powers and duties.

DISCIPLINE AND THE ABOLITION OF CORPORAL PUNISHMENT.

Good government, all will agree, is essential to a good school. A spirit of obedience to law is of more value and importance to the individual and society, than mere knowledge; the increase of the latter without the former is but augmenting an evil. The

want of that spirit in a part of the human race requires the strength of stone walls and iron bars for the protection of the rest. It is all-important, therefore, that this spirit should be implanted in the tender minds and hearts of the children in our public schools; they are educated at the public expense, and they should be so educated that they will become a public blessing. So far all are agreed; but about the means for the attainment of the end, there is a difference of opinion. The discussion of the question of corporal punishment in our schools has been revived during the last few years, and especially in our own city. The corporal punishment of girls was prohibited by the School Committee of this city in 1868, and in April last we extended the prohibition to boys. The latter order, however, was voted for by members who were not believers in the rule, but who thought that course the wisest, under the circumstances, for a solution of the difficult and exciting problem. Perhaps the trial has furnished another proof of the wisdom of Hudibras, that

> "He that complies against his will,
> Is of his own opinion still,"

rather than settled the question of the expediency or inexpediency of corporal punishment in our schools. Even those who favor conferring the power of its exercise upon our teachers will admit that, like gunpowder or nitro-glycerine, it is a power to be used with the utmost caution. Like all power, it is liable to abuse. There can be no doubt that many children "are more sinned against than sinning," but this remark applies with equal truth and force to parents as to teachers. How many times have we all seen parents, and sometimes in public places, lose their patience and tempers, and scold their children when they deserved the scolding tenfold more than their offspring. Children have undoubtedly received unnumbered scoldings and punishments, both at home and in school, in consequence of the overwork of parents or teachers, indigestion or bad air. Children would be misgoverned less if parents, as well as teachers, would govern themselves more. The odious, despotic principle, that "might gives right," enters, without doubt, too largely into the government of the young, and scolding must be admitted to be nearly, if not quite, as bad in its effects as punishment.

One of the most important things for a person, having charge of children, to remember at all times, is the fact that they are children, and we ought not even to desire them "to put away childish things" till they cease to be children. If, however, parents in their infirmity forget themselves sometimes with a small family of children, they ought at least to exercise a little Christian charity towards teachers with fifty or a hundred or two hundred pupils under their charge, who come from homes as various in their influence as in their number. Before casting stones at teachers for their sins, they should be quite sure that they are not sinners themselves. A teacher should combine the amiability of a saint with the iron will and firmness of a military despot, whether corporal punishment is allowed or prohibited. But models among teachers, as in the other professions and vocations of men, are rare. It is the duty, however, of the Committee to exercise great care and wisdom in the selection of teachers, and select not only those persons who have an aptitude for giving instruction, but who also have good, kind hearts, and good manners, as a sort of exterior, visible finish, to adorn and render attractive the more solid virtues within. The teachers of Cambridge, we believe, will compare favorably with those of any other city, and we are happy to say that there are some to whom we can point as models.

It is due to the citizens of Cambridge, and to the friends of education elsewhere, that we should give them some information relative to the effects of the abolition of corporal punishment in our schools during the current year. We have tried the experiment, not only for ourselves, but for the other cities and towns of the Commonwealth. The experiment may not have been as perfect as the Committee intended. The prohibition is expressed in our rules as follows: "Punishment intended to act through the production of bodily pain shall not be inflicted." It seems, however, from information obtained near the close of the year, that some of our teachers have not understood that language to forbid the shaking of pupils, or at least the clothes which contain them. These exceptions to the strict observance of the rule are however, perhaps, not very numerous.

The prohibition of corporal punishment has, of course, necessitated the adoption of some substitute, or partial substitute,

therefor, for a law without a penalty for its infraction carries very little terror to evil-doers. That substitute, or partial substitute, has been the suspension of pupils. There have been reported to the Board, under its rules, fifty-one suspensions: how long these suspensions have continued we are unable to state, although they have doubtless varied in their duration, while some have amounted to expulsion. The number reported, however, indicates but a small portion of what in strict truth may be termed suspensions. Teachers have been accustomed to send notes to the parents of disobedient pupils, informing them of the bad behavior of their children, and that they could not return to school till either the teacher or a member of the Committee had been seen in reference thereto. This has rendered the duties of the Committee more burdensome than heretofore. But only the worst cases have been reported to the Board, and we have no means of obtaining the number of these minor suspensions. At the October meeting of the Board, an order was passed directing the Committee on Rules and Regulations to consider and report a substitute for the suspension of pupils, and that committee at the December meeting reported that they had matured no plan which they would be willing to present to the Board, and recommended that the subject be referred to the next School Committee.

In order to ascertain from the teachers, who have had a better opportunity than the Committee to observe the practical operation of the rule, those teachers in the Grammar and Primary Schools having charge of rooms, have been requested to answer certain questions.

Answers have been received from 84 teachers. Some of them answer directly, some indirectly, and some inferentially: some answer all, and some only a part of the questions. The questions and answers are as follows: —

1. *What has been the result of the abolition of corporal punishment in your school?*

This has been answered by 8 favorable, 3 favorable with qualification, 46 unfavorable, 2 unfavorable with qualification, and 5 no change.

2. *How does the discipline, under the present rule, compare with that under the former?*

8 favorably, 47 unfavorably, 1 unfavorably with qualification, 13 no change, and 1 no change with qualification.

3. *How have the habits of study and standard of scholarship, as shown by promotions or otherwise, been affected by the present rule?*

4 favorably, 31 unfavorably, 4 unfavorably with qualification, 30 no change, and 2 no change with qualification.

4. *Does the administration of the school require more exertion than under the former rule?*

66 yes, 1 yes with qualification, 4 no change, and 1, as an exception to prove the rule, asserts that it requires less exertion.

5. *How does the administration of the school, under the present rule, affect the relation between parents and teacher?*

8 favorably, 3 favorably with qualification, 17 unfavorably, 2 unfavorably with qualification, and 29 no change.

6. *What in your opinion would be the result with a smaller number of pupils in each room?*

66 more favorable, 1 more favorable with qualification, and 18 no change.

7. *Do you think 50 or 60 scholars can be managed successfully by one teacher, without corporal punishment?*

8 yes, 38 yes with qualification, 17 no, and 18 no with qualification: yes and no with qualification are, however, substantially synonymous.

For the purpose of giving the views of teachers, and facts which have come under their observation, more fully, we quote from some of their letters, intending to give a sample of the different shades of opinion. One teacher of a large school says, "The school was never in a better condition, the scholars never more respectful, and never a kinder feeling manifested than at the present time."

Another teacher of a similar school who answers the second question "favorably," says, in answer to the first, that "much of the time of the teacher which should have been given to instructing, was required in maintaining discipline. Some children have been deprived of school privileges who were entitled to them. Some parents have been troubled and fretted because asked to assist in the discipline of their children."

Another teacher of a school similar to the two foregoing, says, "A certain class of boys, unfortunate in their home influence and training, have been far more troublesome than formerly; insolent and impudent answers have been given to teachers, such as would stir the righteous indignation of any parent, teacher, or member of the School Committee."

Several speak of the want of "prompt obedience" under the present rule, and of the failure of suspensions to work any "permanent benefit."

One teacher says, "Never thinking of resorting to this mode of correcting a scholar, I cannot reply to the first question. I fully believe the deportment *is better without it.* In three separate classes which I have had under my control the past year, I experienced from every individual pupil the *strongest desire* to do their *best.* Each one wanted to *excel* in *studies* and *deportment* other classes of the same grade. It does not require *any physical strength* to govern a school *without* corporal punishment, while in my opinion, with the use of this treatment, a whole school is disturbed. I never had any trouble with parents because I *did not whip* their children, and all was very pleasant with the exception of three parents, and finally they proved friendly. I sincerely trust that *never again* will a case of *whipping* or *shaking* be allowed in our public schools." The italics are given as in the original.

One teacher who answers the second and third questions "no change," says, "The parents, as far as I am made acquainted with their wishes, would prefer a return to a reasonable and mild form of corporal punishment," while another says, "They (the parents) have all expressed themselves as preferring corporal punishment to suspension or the sending home of notes." Similar views are also expressed by many others. Quite a large number, also, say that they have been requested by parents to punish their children instead of suspending or sending them home; and several speak of cruel punishments being inflicted by parents upon their children in consequence of their being sent home. Here are important data for our successors which we trust they will use wisely.

HIGH SCHOOL.

At the annual election of teachers in 1868, Mr. Bradbury, who had been an assistant teacher in the High School since 1856, was appointed acting master thereof, and continued in that capacity through the year. In the Report of the Committee for the year of his appointment as sub-master, the remark is made that "his

tastes incline him to the physical sciences and mathematics," and for several years he gave instruction principally in those branches; he was, however, subsequently transferred to the classical department, and has now an enviable reputation as a classical scholar and teacher. At the last February examination, the High-School Committee were aided by other members of the Board, and the members of the Committee and friends of the pupils present expressed themselves emphatically as pleased with the results. The exhibition at the close of the summer term was attended by only four members of the Board, who belonged also to the High-School Committee, and they and the numerous friends of the school, who filled the large hall, were more than pleased with the exercises, and the opinion was generally expressed that there had never been a more successful exhibition. These annual exhibitions, though they may for a few weeks at the close of the term divert the minds of the graduating class from their prescribed studies, are doubtless beneficial in other respects, and serve especially to call the attention of our citizens generally to this, their highest institution of learning, and awaken an interest therein. Prior to the annual election of teachers, the High-School Committee maturely considered the question of the mastership of the school, and four of its five members united in recommending Mr. Bradbury for the position. His experience as a teacher in the school had been varied, having given instruction in the physical sciences, mathematics, and the Latin and Greek languages, and he was thus apparently well fitted, by experience at least, to take the general superintendence of the school; but the High-School Committee based their action principally upon his success as acting master for the year then closing. This success had been achieved, despite various adverse influences. Mr. Bradbury, however, regardless of these influences, devoted himself faithfully to his duties, and at the August meeting of the Board was elected master of the school.

Near the close of the summer vacation, Mr. Gillet, who for several years had been a very efficient teacher in the department of physical sciences, resigned his position as one of the sub-masters of the school. The High-School Committee advertised for a sub-master; and, out of about forty applicants, selected Mr. T. P. Adams, a graduate of Harvard College, and at

the time master of the High School in Plymouth, Massachusetts. The school has now an able corps of teachers, and will compare favorably with any High School in the Commonwealth. At the close of the year, however, Miss Reed, an accomplished lady and teacher, who was appointed an assistant teacher in the autumn of 1868, resigned her position on account of ill health. This leaves a vacancy to be filled by our successors, which they may deem advisable to fill with another male teacher.

The General Statutes, in addition to the branches of study in which instruction is given in our Grammar Schools, require that instruction shall be given in the High School in "general history, book-keeping, surveying, geometry, natural philosophy, chemistry, botany, the civil polity of this Commonwealth and the United States, the Latin, Greek, and French languages, astronomy, geology, rhetoric, logic, intellectual and moral science, and political economy." It is apparent, therefore, that no branch can be made a specialty, and consequently if a pupil desires to give his special attention to any particular study with reference to his contemplated vocation in life, he cannot receive the exclusive instruction sought in a school where so many branches are required to be taught, without detriment to the other members of the school. It is to meet the wants of such pupils that various private schools and incorporated institutions have been established in this State.

THE HOPKINS FUND.

We sometimes hear complaints that our High School is essentially a classical school. This we deny; it should, however, be remembered that it ought to be really more than a High School under our statutes. In 1839, the Legislature authorized "the trustees of the charity of Edward Hopkins," who was the second governor of the Connecticut colony, "to establish in the town of Cambridge a classical school, the main object of which shall be to prepare boys for admission to Harvard University," and "to apply one-fourth part of the net income of their funds to the support of said school." This school was accordingly established. It was provided, however, in the act above referred to, that at any time thereafter, when the school should "cease to be supported in said town, the trustees shall annually pay over the said fourth

part of the net income of their funds to the treasurer of the town of Cambridge, on condition that the said town of Cambridge shall provide and maintain a school, and perform and comply with the other duties and provisions contained in the next section of this act." The next section is as follows: "The town of Cambridge shall annually apply so much of said income as may at any time hereafter be paid to the treasurer thereof, in pursuance of the preceding section, to the instruction of nine boys in the learning requisite for admission to Harvard University; the said instruction to be furnished in a public school in said town, the instructor of which shall be at all times competent to give such instruction; and said town shall, so long as said income shall continue to be paid, receive into said school, and admit to all the benefits, privileges, and advantages thereof, free of expense, any number of boys not exceeding nine at any time, who, being properly qualified, shall be selected and presented for admission thereto, by the president and fellows of Harvard College, and the minister of the First Church in Cambridge, who shall be the visitors of said school for the purpose of seeing that the duties and provisions in this section are duly complied with and performed." In 1854, the trustees proposed to the city to discontinue the Hopkins School, and, pursuant to the provisions of the statute above recited, to transfer to the city that portion of the income of their fund which had been previously applied to the support of that school; this proposition was accepted by the city, which thereby assumed the obligations above quoted, and the School Committee of that year immediately acted in fulfilment of those obligations, by appointing a Hopkins classical teacher. It is not for us to pass upon the wisdom of the contract thus entered into by the city, but we will ask those who may be inclined to think our High School too much a classical school, whether it can be any less so without a violation of that contract.

PLAN OF STUDY IN PRIMARY AND GRAMMAR SCHOOLS.

Next to the moral discipline of our schools, there is no question of more importance than that of the studies pursued in them. In fact the questions of mental and moral discipline are in great measure one. A right mental discipline is largely a good moral

one. The difficulties of the latter will, many of them, disappear with a right treatment of the former. Not only will a natural method of mental training be healthful and stimulating to the intellectual faculties, but it will help to keep the temper happy and sweet. Disgust and weariness with monotonous drill is the parent of much restlessness, negligence, and mischief. A child interested in its work is not a troublesome one, and that school will least task its teacher's patience where the daily work is suited to the natural capacities and wants of its pupils. The "order" which "reigns in Warsaw" — the mechanical order of fear — will be replaced by the natural order of life and love.

It should be understood that a plan of study is not intended to act as a restraint upon a teacher. It says "thus far" only in a given direction. It merely indicates the least that should be done. Precisely the same amount of work cannot be done in every year and in every school. The capacities of classes are not uniform, and undertakings may be ventured in one school which would not be safe in another. But whatever a teacher feels that he can do, without neglect of the appointed work, to widen the range and lessen the monotony of the daily routine, he should be encouraged in doing. Such lessons should be given according to some system, and should be learned with the same thoroughness as other lessons.

A natural scheme of education will make its basis as broad as possible. A child is by nature and necessity a lover of all knowledge. He is placed in a strange and wonderful world, and his first need is to make himself acquainted with the common objects around him. To see and learn to call by name is his first task. Classification and comparison, the study of laws and sciences, come as late in the history of the individual as in that of the race. "Facts, with little reasoning," should be the motto for the first half of a course of education; "reasoning upon facts," for its last part. Selection of special objects of study belongs, too, late in the stage of development. Not till facts are gathered from all branches of knowledge, can the mind show any natural bent or a wise selection be made.

In the early stage of education, including the Primary and Grammar Schools, the elementary facts of all branches of knowledge ought to be taught. The only selection admissible is that

of the near in preference to the remote. Things visible and immediate must first be known and named. The statement that oxygen and hydrogen combine to form water, has little meaning to a child, because the elements are abstractions; but any thing about the transformations of vapor, dew, frost, rain, snow, and ice, interests him, for he sees some one of them every day. Sensible objects and their pictures are the chief food of a child's mind; perception and imagination, the chief faculties to be addressed.

Nor should the studies of one grade be regarded merely as a stepping-stone to those of another. The plan for each should be made suited to the wants of each. The studies of the Grammar School should not be merely what are necessary for admission to the High School, nor those of the Primary merely the requirements for entering the Grammar School. Each should be complete as far as it goes. Education, and not the passing of examinations, is the end of school training. Any system which fails to meet the wants of each age, and keeps artificial ends in view, will not only deprive the great majority of children of the chance of gaining important knowledge, but will fail to stimulate healthy enthusiasm.

The fatal objection to methods of teaching which do not precisely fit the need of the child at each age, is that the labor thus expended is labor lost, or nearly so. Memory is the only gainer. That gain will be quite offset by the dislike, or want of any liking, for knowledge for its own sake. The knowledge acquired will, moreover, be held by a doubtful tenure. Having never been assimilated, it stays as long as the "high pressure" lasts, and then evaporates.

The studies at present pursued in our Primary and Grammar Schools are Reading and Spelling, Arithmetic, Geography, Grammar, History of the United States, with exercises in Music, Penmanship, Calisthenics, and Drawing. The latter has been introduced during the present year, and is a step in the right direction, for the hand and the eye need education no less than the intellect.* With this exception, this plan has undergone little change for many years, except in the text-books used.

* The "Regulations" also require that the teachers of Primary Schools shall endeavor to cultivate in their pupils the powers of Memory, Observation, and Quick-

Yet can any one who has had to do with children believe that this plan is broad enough to answer all, or even the most imperative, wants of children between the ages of six and fourteen? In some important directions it is wholly lacking; in a part of what it includes, it requires too much or pursues a method unsuited to childish years. Notice its chief deficiency. Nature is wholly excluded, except so far as its most general outlines are taught in the improved text-book on Geography, now in use. The studies, of all the most attractive to children and the most important in training to habits of observation, are left to the High School, where, if the pupil proceed so far, it is not so much the facts of Nature as their laws that he studies. For example, the pupil when he reaches the second year of the High-School course, is taught "How Plants Grow," and how to classify them, when it is wholly by accident if he knows by sight and name a single tree, shrub, or flower. He is to construct a science from facts of which he is almost or entirely ignorant: which he has perhaps not even noticed. The study will, accordingly, lack meaning and interest in proportion to his ignorance. He comes to the study of Natural Philosophy, Chemistry, and Astronomy with a mind equally untrained to observe the facts upon which these sciences are based. The panorama of earth and sky passes by the child season after season, but it gets scarcely a note of recognition at school, probably not at home, and his simple, childish wonder dies into insensibility. School and the outside world get to be regarded by him as having no connection or relation. It is only in his play that he comes in contact with Nature. His sports may do something to save him from the neglect of the school.

This exclusion of Nature from our plan of early education can be justified on no satisfactory principle. Not surely on the ground of the difficulty of the subject. For it must not be forgotten that it is mainly facts, phenomena, with only the most general classification or explanation, that must be taught at this early stage. The

ness, — the first, by requiring them to learn and repeat select pieces of prose and poetry; the second, by frequent object lessons; the last, by special exercises. It does not appear, however, that most teachers have considered these exercises as obligatory upon them, or as forming a part of the necessary course of study. The requirement does not extend to the teachers of the Grammar Schools.

so-called explanation, — which is only showing the connection between apparently isolated facts, — the study of science and its nomenclature, belong to later years. There is no greater difficulty in perceiving and naming the objects and operations of Nature, than a child of two years encounters, for his whole learning is little more than this. Nor can this exclusion be justified on the ground that children will learn these facts without the help of the school, for, except in the comparatively few instances in which the parent tries to supplement the work of the school, children do not learn them. They do not observe them, for no one has taught them to observe; it is just because the far greater portion of the children who attend the Primary and Grammar Schools get no instruction at home, that it is the more incumbent on the Public School to supply the deficiency. The educated will, the rich at least can, furnish their children with books at home; but children who are heirs only to poverty and ignorance, must depend solely upon the bounty of the Public School.

Nor need there be serious difficulty in the method of teaching the elements of knowledge in the various departments of Nature. Books written for children upon such subjects are now as common as they once were rare. But it would be wrong to place exclusive reliance upon them. "Object teaching," practised according to book-rules, is often a mechanical exercise in words; still more frequently the teaching is desultory and unsystematic; but the phrase is suggestive. There is no instruction that impresses like the object itself or its best representative. The best book about any subject gives the learner only second-hand knowledge. It must often be taken, because direct knowledge cannot be had; but where the object or its likeness can be seen, and the teacher is fit to guide, no book can be compared with it. It would not be difficult, for example, by means of the leaves, the bark, and, in their season, the flowers, to teach children to know the different kinds of forest and shade trees. The teacher must point out the peculiar structure of each, and show how it may be identified. They could afterwards be required to bring each a specimen, to tell where each species might be seen, and how distinguished. Then would follow lessons upon the common shrubs and flowers, the grains, the vegetables, and the different kinds of wood. Another series of lessons should be given upon birds, beasts, and

insects, illustrated by charts and accompanied with reading upon their habits. Still another, and perhaps later, series would be upon the common phenomena of the air and the heavens, in which the child should be taught to watch and discover for himself as much as possible. The materials used in building, and in the mechanical arts, articles of food, brought from foreign countries, and the simplest facts of physiology would furnish subjects for lessons no less instructive and interesting. With teachers, of whom we have not a few, apt to teach and apt to learn, alert to feed the minds of their pupils with food convenient for them, can there be any great difficulty in putting into practice such a scheme of instruction as this? What better foundation could there be for scientific education or for practical life? Can there be any doubt that it would delight as well as instruct, invest the school-room with something of the charm of the outer world, and furnish a connection between its daily routine and the living, moving world of realities without?

The teacher, also, hardly less than his pupils, needs the freshening influence of a wider range of topics upon which to communicate with them. His narrow book-routine is stifling. He needs constant contact with Nature and real objects, to counteract its poison, and to bring him into closer sympathy with the minds of his pupils.

"But how shall we get time for all this?" says the teacher, who fancies himself crowded with what he has now to do. In two ways: by improving the methods of teaching what is now taught; and by banishing from the Primary and the Grammar Schools work which has no place there. Let any one examine the plan of work for the classes in our Grammar Schools. He will find it hard to persuade himself that so much time is needed to go over so little ground. The advance work of the First Class, to take a single year, consists of one section of Colburn's Arithmetic, less than forty pages of Walton's, one hundred pages of history, with the last half of Hillard's Sixth Reader, Music, and Drawing. The rest is reviewing and drilling, drilling and reviewing, till all that is stimulating is gone. There is abundant complaint that the children in our Public Schools are overworked. There is too much ground for this complaint. They work hard, but do little. It is not the time spent in study, but the time spent in

monotonous, lifeless tasks, that causes the trouble. Reviewing and drilling are to a certain extent necessary and well, but there is a limit. The mind needs fresh food as much as the lungs fresh air. It is the freshness of both that vitalizes; the stale gives the headache. To what end so much deadening work? It is little exaggeration to say that a "high per cent." at the coming examination, on three or four studies, is the end and aim of all the teaching of the year preceding each graduation, and of much that goes before. In the mind of teacher and pupil, the Grammar School exists chiefly for the High School, the Primary for the Grammar. It is just this that causes the "high pressure." Some change in the system of examinations and promotions, to lessen this pernicious influence, is greatly to be desired.

But with the power of "per cent." curtailed, and the use of the drilling machine kept within proper limits, there is a large saving of time. Time can be saved, too, by omitting or deferring not a little that is unnecessary, or has no place in this early stage of education. The last year's work, above mentioned, is almost wholly of this character. The knowledge of arithmetic, which, by the present plan, the child is supposed to have gained by the time he reaches his last year in the Grammar School, will be sufficient for the great majority for a lifetime. The applications of percentage to all the various kinds of complicated business transactions, though a child of fourteen may learn to go through them in a mechanical way, can never be thoroughly comprehended by him, and will rarely be remembered. The elementary truths of geometry, not its reasonings, would be of vastly more practical value and interest, as well as far easier. The same may be said of book-keeping, which belongs of right to the earlier rather than the later stage of our course of Public-School education. Further than this, — a great part of what may be called the philosophy of arithmetic, — the reasoning by which certain processes are shown to be correct, belongs, equally with the demonstrations of geometry, to the reasoning stage, and ought to be embraced in the instruction of the High School.

But a worse mistake is made in the method of teaching history. The past has no charm for childhood, except in its persons, and then only as they are made living to their imagination. Laws, the causes of great movements, the questions of war and peace, have

no interest to a child. It is the dramatic, the epic, element in history alone that has any attraction or profit for them; it is the story of great actions pictured to their minds that gains their attention. The personal history of a few of the discoverers, the early settlers, and later benefactors of the country, if written with a spark of life, would, by two or three readings, fix in the minds of children more of history than years of painful drilling after the present method. Nor is there any reason why this reading should be confined to American history. Alfred, William the Conqueror, Richard the Lion-hearted, Edward III. and the Black Prince, Elizabeth and Mary Stuart, Charles and Cromwell, though farther off in space and time than our great men, belong also to us, and fill as large a place in the world's thought as they. There is no want of charming books for children in English history. The want is beginning to be supplied in American history. Such reading as this, with books upon natural history, might well take the place of the Reader, at present used by the First Class in the Grammar School; consisting as it does, in large part, of fragments of speeches, sermons, and essays, which have no sort of relation to the thought of a child. If words are all that is necessary for a reading exercise, these are very likely as good words as any. If it is desirable that they should have an intelligible meaning to a child, they could hardly be worse than much of what our pupils are made to read. Complaint has been made by parents that children come from the Grammar School with no love for reading. It ought not to be true; but, among the mass of children to whom books mean school-books, it would not be strange if there were associations with the idea of reading not always of the most cheerful sort. A child will love to read, if he can have books in his own language. He loves knowledge, but it must be in pictures, and not abstractions; in forms which live and move before his mind's eye, and not in dead words.

Enough has been said to show that by proper methods, by omitting and deferring, time enough can be found to give a broader and more generous education to the children of the Primary and Grammar Schools, at the same time relieving rather than increasing the pressure which now exists. The object aimed at in these remarks is not to make study amusing or to find a "royal road to learning." A thorough and wholesome discipline

must often be severe; it is vain if it do not teach the conquest of difficulties. The school is in fact a gymnasium for developing and training the powers of the mind. But it ought to instruct as well as educate — furnish the mind as well as drill it. It is this part of their duty that our schools now fail to perform. The changes which have been advocated have in view a wider range and greater amount of instruction, as well as the forming of observant minds. They do not involve any relaxation of a true and healthy discipline in other directions. Something might, perhaps, be lost in the "per cent." at the examination; but in all that constitutes mental activity and growth, as tested by subsequent progress, the only true test of any system of training, it is believed that so far from there being loss, there will be manifold gain; and, what is of hardly less importance, gain in the increased love of study, and in smoothing the rough places of school-life.

TRAINING SCHOOL.

During the year, arrangements have been made for giving instruction to young ladies who desire to teach in the Primary Schools.

There is a growing number of such persons in the city, who are looking forward to teaching as a means of support, and who have, at considerable expense to themselves or their parents, carried their education farther than they would have done without such an end in view; and yet they are without experience in teaching, and without any intelligent conception either of the best methods, or of the true ends to be accomplished. In many cases they seek appointment in country schools, which give them work enough to do, but which furnish very little of the experience required here; and, at the end of perhaps several years of almost profitless experience, they apply for appointment here not much improved beyond what they were at graduation, and with ideas and habits which are far from what are best for our schools.

The arrangements of the Committee to introduce a training class into the Riverside School House, and to employ it in the instruction and discipline of the school, will, it is hoped, provide young ladies with an effective means of qualifying themselves for appointment in the schools, and train them under the eye of

highly accomplished and competent persons to perform their duties in the best manner.

The establishment of this plan in the Riverside will not displace the scholars who are there now, nor interfere with their daily and regular instruction as heretofore. The experience of other cities, which have adopted the Training System, leads us to anticipate that they will be greatly benefited, and that, good as the school has been, it may be expected to be better under this plan.

A Superintendent and Assistant have been employed to take charge of the work; and the Committee believe that they have been singularly fortunate in securing the services of two such accomplished ladies as Mrs. Sullivan and Miss Munroe.

In response to the inquiry what is to be gained by this school, the Committee would reply, in the first place, that they expect that it will become a Model Primary School. This has been the first aim in other cities where such schools have been tried; other teachers have studied them, and tried their methods, and gradually brought their discipline and instruction up to the standard of the model school. The law of the Commonwealth, which requires teachers to visit and examine other schools, contemplates the establishment of model schools, and we expect this benefit from the new arrangement at the Riverside.

In the next place, the Training School will ultimately give all the Primary teachers of the city the benefit of thorough training in their art. Their attention will be called to the peculiar and ever-changing wants of the schools of the city. They will go into the duties of their situation furnished with principles, intelligent conceptions, habits of self-control, and teacher-like sentiments instead of routine. Plans can be tried here for meeting the special wants of the local instruction: and generally it is believed that teachers will enter the schools with a better understanding of what they will be required to do, and with a larger amount of really valuable experience than is ordinarily obtained in several years of instruction in good schools.

And, finally, young ladies in the city who desire to teach, and are competent, will have an easy and sure way opened to them to find employment.

The additional expense to the city required to organize the

Riverside Primary for these purposes, and to carry forward these two lines of simultaneous instruction is small; the benefit which will accrue to the schools of the city it is confidently believed will be very great. And the Committee anticipate that this measure will prove, in the end, the most important step taken by them during the year 1869.

CONSTRUCTION AND REPAIRS.

On this subject the Committee would refer in general to what is contained in the Report of the Superintendent, and repeat what is said there.

Several of the buildings are already overflowing, and the accommodations which have been provided for the surplus scholars are unsatisfactory.

The Washington Primary in Ward I. has used a portion of the Methodist Church at a high rent, and the prospect is that even this arrangement, inconvenient as it is, cannot be renewed.

It is a matter of regret that the Primary School building promised in Ward IV. was not erected during this current year. The Committee did what they could to secure this result, and desire now to express the hope that the work will go forward without further delay.

The school which is most in need of a new school-house is the Harvard Grammar, under the care of Mr. Magoun.

The character and usefulness of this school are impaired by the insufficient accommodations of the building. A large portion of the children have been removed to the building formerly occupied by the High School, and at this distance from the master lose, of course, a part of the benefit of the Grammar School training.

One whole class is placed in a wretched attic, where in summer the sun falls directly on the roof a few inches above the very low ceiling, and transforms the room into a furnace. In winter, the apartment is stifling, and unfit for the study of so many children. This attic cabin has almost no desks at all in it; the seats are ranged along the wall in the primitive style of the old red school-houses which have not yet disappeared from all the rural districts; and the apartment in general wants nothing to complete the resemblance to the eye but arrangements for lighting with dip tal-

low candles. The stairways are poor and dangerous. The furnaces do not work well, and it is doubtful whether they can be put in order as long as the flues of the chimneys are so bad that whole classes are at times driven from their rooms by coal gas and smoke; and this in the most populous and wealthy ward of the city.

Can it be expected that the inhabitants will continue to send their children to such a dangerous building? Had it not been for the great confidence of the community in Mr. Magoun, the school might have suffered from these causes far more than it has!

Attention was called to this subject as long ago as 1866 by the Hon. J. Warren Merrill, who was then Mayor of the city. The subject has been repeatedly mentioned since. The Inaugural of his Honor, the present Mayor, calls attention to the subject anew; and the Committee desire to state their opinion, in the most emphatic manner, that the city cannot afford more delay in such a matter. They advise immediate action looking to a new building. Eligible sites have one by one been taken for other purposes, and are now rare. Only a few remain. In a short time more, there will be none unoccupied, and the city will be put to great expense to clear the land which must be taken of expensive buildings. Land should be purchased at once, and steps taken to get the building ready for occupation by the opening of the year 1871.

The Committee are satisfied that the large rooms of our Grammar Schools are a serious injury, both to the instruction and discipline. The fatigue of instruction and of recitation in them is very great. The voices of the children are injured; their reading is forced up to a high and unnatural pitch, and the necessity of shouting across so large a space destroys the child's naturalness of manner.

The Committee recommend the remodelling of the present Grammar Schools on the small-room plan, wherever it can be done, and as rapidly as is practicable; and that one such building be taken in hand at once, and made what it should be.

They beg leave also to suggest, that greater pains should be taken in arranging the plan for all new buildings; that the proper parties to be consulted in such matters are the members of the School Committee, who may be supposed to know something

about the subject; and that greater pains taken at first to provide conveniences, and to lay out commodious buildings, will facilitate the work of instruction, and save the city expense.

PUBLIC CRITICISM OF TEACHERS.

The School Committee, elected by the votes of the citizens of Cambridge, are responsible to them for the manner in which they fulfil their trust, and are hence amenable to fair public criticism. The teachers, however, are chosen by the Committee, and are accountable only to that body for the just performance of the duties it has assigned them. Any public criticism upon their conduct, or attack upon their character, is manifestly as misplaced as it is often unjust and cruel. If a teacher is thought to have failed in any duty, or to be for any reason unworthy of his place, it is for the Committee, upon proper representation, to investigate the charge, to censure, and perhaps remove him if offending, or to shield him if innocent. Anonymous charges in the public prints are made with too little sense of responsibility, and are too often prompted by individual dislike to merit respect or to receive attention. The intent, if it be honorable, is generally defeated; if it be to wound and injure, is pretty surely successful. If the effect were limited to the object of the attack, there might be no occasion for protest on the part of the Committee. But, unhappily, the effect is not so limited. The anonymous article, while it will rarely be read by the discriminating, who can estimate it at its true value, will be caught up by the very class it is certain to injure. To school children, the charge that appears in the public print comes indorsed by public authority; unconsciously they consider themselves in some degree absolved from loyalty and respect toward one upon whom the public has frowned. The teacher finds his power broken, and himself condemned, without opportunity for defence, by an illegal court. It is a proverb that "No man is wise at all hours." Our teachers are, of course, no exception; but it must be remembered that few positions in life require such constant self-command and wisdom; especially at the present time, when, apparently, the tendencies and habits of society are growing less favorable to sobriety of thought and character among the young. But if the

shortcomings of any teacher are too great for charity to excuse, no one who has the interests of our schools at heart will parade them before school-children. Those who write or speak for the public cannot use too great care, lest by hasty and injudicious criticism they weaken the principle of obedience, and leave nothing in its place but a spirit of self-assertion and fault-finding.

CHAS. H. SAUNDERS,
Chairman ex officio.

School Committee.

ALEXANDER McKENZIE,
HENRY P. WALCOTT,
LYMAN R. WILLISTON,
HAMLIN R. HARDING,
KINSLEY TWINING,
EDWARD R. COGSWELL,
JOSEPH H. TYLER,
GROVE H. LOOMIS,
GEORGE H. MINER,
SUMNER R. MASON,
JAMES M. THRESHER,
WILLIAM A. MUNROE,
JABEZ A. SAWYER,
JOHN FISKE,

TABULAR VIEW

OF

THE PUBLIC SCHOOLS OF CAMBRIDGE,

JANUARY 1, 1870.

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1870.
High School,	William F. Bradbury . . .	$2,500	262
	John Orne, Jr.	2,000	
	Theodore P. Adams . . .	1,800	
	Mary F. Peirce	1,000	
	Caroline Child	800	
	Emma A. Scudder	800	
	Elizabeth M. Fessenden . .	800	
	Frances M. Read	800	
Allston Grammar,	Benjamin W. Roberts . . .	2,000	579
	Lizzie B. Winnett	600	
	Sarah E. Hearsey	600	
	Sarah D. Whiting	600	
	Anna F. Stanley	600	
	Emily R. Pitkin	600	
	Emma F. King	600	
	Lucy H. Whiting	600	
	Sarah F. Bryant	600	
	Etta S. Adams	600	
	Loriette Avery	600	
	Sarah L. Roberts	500	
	Anna W. Alexander . . .	600	
Harvard "	Aaron B. Magoun	2,000	275
	Catharine Richardson . . .	600	
	H. Augusta Dodge	600	
	Ada H. Wellington	600	
	Mary E. Wyeth	600	
	Martha M. Damon	600	
	Lydia S. King	600	
Putnam "	Francis Cogswell	2,000	354
	Sarah M. Burnham	600	
	Anna B. Josselyn	600	
	Maria E. Spare	600	
	Lizzie A. Winward	600	
	Sarah J. W. McKay . . .	600	
	Eva L. Holbrook	600	
	Carrie L. Noyes	500	

TABULAR VIEW OF THE PUBLIC SCHOOLS (*continued*).

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1870.
Shepard Grammar,	Daniel B. Wheeler	$2,000	321
	Augusta M. Howe	600	
	Emma M. Taylor	600	
	Ella L. Hinman	600	
	Lu A. Butters	550	
	Sara J. French	550	
	Adelaide A. Keith	600	
Thorndike "	Ruel H. Fletcher	2,000	347
	Anna W. Averill	600	
	Eunice B. Dyer	600	
	Martha A. Martin	600	
	Emma F. Munroe	600	
	Rebecca D. Wing	600	
	Ella W. Clark	550	
Washington "	Daniel Mansfield	2,000	343
	Lucy A. Downing	600	
	Adeline M. Ireson	600	
	Catharine P. Green	600	
	Abby M. Webb	600	
	Eleanor M. Butler	600	
	Mary E. Lord	600	
	Emma F. Pomroy	550	
Webster "	Alvah C. Smith	2,000	523
	Eliza K. Brackett	600	
	Lucille C. Bancroft	600	
	Eliza D. Fisher	600	
	Jane Dallinger	600	
	Helen J. Maiers	600	
	Louise C. D. Harlow	600	
	Isabel B. Merrill	600	
	Gertrude A. Hyde	600	
	Esther F. Hannum	600	
	Susan E. Merrill	550	
Boardman Primary	Mary F. Emerson	600	375
	Mary F. Ball	600	
	Margaret B. Wellington	550	
	Marietta B. Hawes	550	
	Mary F. Stewart	600	
	Mary Agnes Lewis	550	
	Mary L. Tower	600	
	Charlotte E. Watson	550	
Bridge "	Elizabeth E. Dallinger	600	82
	Emily C. Dallinger	500	
City "	Sarah A. Rand	550	27
Craigie "	Harriet A. Butler	600	119
	Mary E. Willis	500	
Dana "	Maria F. Williams	600	44
Dunster "	Sarah B. Waitt	600	180
	Susan E. Wyeth	500	
	Sarah E. Stewart	500	
	Mattie G. Satterie	450	

TABULAR VIEW OF THE PUBLIC SCHOOLS (*continued*).

Name of School.	Teachers.	Salary.	No. of Scholars, Jan. 1, 1870.
Felton Primary,	Elizabeth T. Dike	$600	125
	Caroline E. Chester	600	
	Martha E. Culver	500	
Gannett "	Sarah J. A. Davis	600	195
	Lucy C. Wyeth	600	
	Elizabeth M. Davis	550	
	Jennie L. Richardson	500	
Harvard "	Helen J. Ward	550	60
Lechmere "	Martha J. Avery	600	54
Mason "	M. Lizzie Evans	600	151
	Julia E. Murdock	600	
	Susan M. Cochrane	500	
Otis "	Abby S. Taylor	600	270
	Lydia A. Whitcher	600	
	Susan M. Pendexter	600	
	Ellen N. Pike	500	
	Julia M. Mighill	500	
	Luvia Goodnow	500	
Putnam "	Frances E. Pendexter	600	204
	Hattie M. Prince	600	
	Jennie A. Norris	500	
	Sarah F. Gardner	450	
Quincy "	Charlotte E. Jewell	600	95
	Helen E. Morey	600	
Reed St. "	Luey T. Sawyer	600	204
	Evelyn A. Sawyer	600	
	Emma L. Hutchins	600	
	Martha C. Dickman	550	
Riverside "	Garaphilia M. Beers	550	222
	Abby A. Lewis	550	
	Jennie C. Osgood	550	
	Helen M. Kelley	500	
Sargent "	Anna M. Harrod	600	150
	Frances J. Harrod	600	
	Fanny B. Messenger	500	
	Annie F. Harding	500	
Shepard "	Fannie E. M. Dennis	550	99
	Charlotte A. Ewell	500	
Thorndike "	Martha H. Butler	600	120
	Helen L. Shepard	450	
Washington "	Marianne M. Webb	600	139
	Eunice W. Field	600	
	Julia H. Kimball	500	
	Ella F. Webber	500	
Webster "	Mary A. Tarbell	600	158
	Mary E. Sawyer	600	
	Fanny E. Cooke	450	
Williams Hall "	Anna S. Lamson	600	110
	Kate M. Lowell	500	

Teacher of Singing — Nathan Lincoln, $2,000.

SUMMARY.

Number of pupils in High School	262
" " " " Grammar Schools	2742
" " " " Primary Schools	3183
	6187

COST OF INSTRUCTION.

High School	$10,500	for each pupil,	$40.07
Grammar Schools	45,950	" " "	16.72
Primary "	37,200	" " "	11.68
Music	2,000	" " "	.32
	$95,650		$15.45

Number of pupils belonging to Public Schools, Jan. 1, 1870	6187
" " " " " " " " 1, 1869	6167
Increase during the past year	20

Increase of pupils, 1860	272
" " " 1861	172
" " " 1862	262
" " " 1863	226
" " " 1864	200
" " " 1865	58
" " " 1866	243
" " " 1867	286
" " " 1868	330
" " " 1869	20

Number of Schools	30
" " Teachers	137

REPORT

OF THE

SUPERINTENDENT OF SCHOOLS.

Gentlemen of the School Committee: —

THE past year has been, in general, one of successful work, as compared with preceding years; and the present condition of our schools is quite satisfactory.

Many changes have occurred in our corps of teachers during the year. Death has removed one who was most successful as a teacher, and who is held in affectionate remembrance by all who knew her worth. Fifteen teachers, either influenced by the consideration of increased salaries elsewhere, or other cause, have left the service; while, to supply their places, as well as to meet the demand for an increased number of teachers in our rapidly growing city, nineteen teachers have been appointed.

The following statistics may be of interest: —

POPULATION.

Estimated population of Cambridge		40,000
Number of children from five to fifteen years of age in May, 1869	7571	
Number in May, 1868	7306	
Increase for the year	265	

SCHOOLS.

1 High School.
7 Grammar Schools.
22 Primary Schools.
6 Evening Schools.

SCHOOL-HOUSES.

Whole number of school-houses		24
For the High School	1	
For the Grammar Schools	7	
For the Primary Schools	16	

Estimated valuation of school-houses, lots, furniture, libraries, and apparatus, $450,000.

TEACHERS.

Number of teachers in High School	8
Male teachers, 3; female teachers, 5.	
Number of teachers in Grammar Schools	61
Male teachers, 7; female teachers, 54.	
Number of female teachers in Primary Schools	67
Number of teachers in Evening Schools	10
Male teachers, 6; female teachers, 4.	
Whole number of teachers in Day Schools, including teacher of Music	137

PUPILS.

Average whole number of pupils belonging to the Day Schools during the year ending February, 1869	5704
Average daily attendance of pupils in all the Day Schools for the year	5191
Average per cent. of attendance of all the Day Schools	91
Number of pupils over fifteen years of age attending during the year	578
Average number of children from five to fifteen years of age not connected with the Public Schools	1993
Age at which children are admitted to the Primary Schools	5 yrs.
Number of pupils admitted to Grammar Schools	651
Average age of pupils admitted to Grammar Schools,	10 yrs. 1m.
Number of pupils graduated from Grammar Schools	137
Number of pupils admitted to High School	109
Number of pupils graduated from High School	44

Evening Schools.

Whole number of pupils belonging to the Evening Schools	280
Average attendance in Evening Schools	171

Private Schools.

Whole number of Private Schools	21
Number of pupils in Private Schools (estimated) . . .	600

Assessed value of real and personal estate,	$39,210,900.00.
Total amount of taxes levied	$566,818.60.
Amount appropriated for the support of Public Schools, including expenses for new houses and alterations . . .	$141,216.93.

In inviting your attention to the condition of our schools, the subject first in order, as well as first in importance, is that of

SCHOOL ACCOMMODATIONS.

In Ward I. additional room is now needed for the Washington Primary School. Some months since, a part of this school was transferred to the Methodist Chapel, on North Avenue, to make way for the Washington Grammar School. This was, at the time, regarded as a temporary expedient, and it is hoped that it will prove to be so. As it was granted with extreme reluctance, it is not probable that it could be retained for another year, even should it be desired.

Doubtless the immediate wants of this ward can be met by enlarging the Quincy School-house; but whether this should be done, rather than to erect a new building, is a question of some importance. Unless additional accommodations be furnished in some way, we shall have, at the beginning of the term next September, about one hundred pupils unprovided for. That no hall or vestry, except the one now occupied, can be procured for school purposes, was fully demonstrated a few months since.

In Ward II. the Harvard Grammar School still occupies the quarters which have for so long a time been a disgrace to that portion of the city. Every argument urged during the last few years, in favor of erecting a new building, holds with increased force

now. Should it be decided to erect this school-house immediately, it would doubtless require more than a year in its completion, and hence it would not be ready for occupation before one year from next September. It seems as if that would be a sufficient martyrdom for those now in it, especially for the teacher and class occupying the attic.

I do not dwell longer upon this, because it is fully discussed in the Annual Report.

In Ward III. an effort was made the past year to have the Otis School-house remodelled, and thus no longer compel one teacher to take charge of a room containing one hundred and sixty pupils; while at the same time, by the change, much space now useless would become available. Could this be done the present season, it seems probable that no additional accommodations would be necessary in this ward during the next year.

It was hoped that a Primary School would be built in Ward IV. during the last year, and some inconvenience has been experienced because of the failure to erect it. Owing to the increase of pupils in the Webster Grammar School, the Primary School occupying the attic of that building was transferred to the Mason School. These pupils all resided south of Short Street, and hence the distance to their new quarters was deemed by some of the parents sufficient ground for withdrawing them from the school. In some instances pupils were thus withdrawn, and are now in Private Schools. The new building cannot now be ready too soon. It will be needed to take a part of the pupils now in the Mason School, the Primary School still remaining in the Webster Building, as well as all those in Williams Hall. This last building seems to have served its purpose, and the sooner it is abandoned as a school-room the better. As is well known, the children are exposed to constant danger from passing vehicles, while another objection to the use of the building is now found in the fact that the out-houses were, some months since, removed because no land could be procured upon which they could be allowed to remain. After citing this last objection, I presume no other need be mentioned.

We have had ample accommodations during the past year in Ward V.; but both Primary Schools are now full, and the Shepard has several more pupils than it has permanent seats.

When it is remembered that the present is the season when we are likely to have the smallest number in our schools, it will be seen that the wants of this ward in the immediate future ought carefully to be considered.

We still have in all our Grammar Schools the antiquated system of large rooms; while, as heretofore, nearly all our Primary Schools are organized on the same general plan, and are ungraded. It is mortifying to be obliged to chronicle such a fact, but truth compels it. Had this system any advocates, or even any apologists, it might be well to notice some of the evils which attend it; but this is not now necessary, since all who are conversant with school matters are ready to condemn it most unqualifiedly. I make the statement most unhesitatingly, that as regards the instruction or the discipline of our schools, the plan of large rooms is wrong in principle and disastrous in results. If now this view be correct, if the present system be recognized as wrong, why should we not commence at once to apply the remedy by changing it for a better one? Is it a matter of small importance? The city of Cambridge expends annually, merely for instruction in its Public Schools, nearly $100,000; this is a large sum, and the labor which costs so much should be so employed that the best possible results shall be secured. This is true economy, any thing else is wasteful expenditure. Unlike the farmer, the mechanic, and the artisan, who eagerly seize upon every improvement, are we not, in one respect at least, foolishly using the systems and methods of a past generation? It is not for me to say that there never was a time when a teacher could properly control and teach from one hundred and twenty-five to two hundred and twenty-five pupils; I do say that that time, if it ever existed, has passed away. The coming year should see one Grammar School reconstructed, and made a model school, with properly arranged rooms and modern furniture. In order that there may be a suitable hall, a French-roof should be added. We should thus take the first step in the right direction, and the results, sure to follow in this instance, would best plead the cause of the rest.

So, too, we should remodel at least one of the Primary Schools. There can be no proper distribution of work in a school composed of all grades; in drawing, for instance, or other general exercise, is the child five years of age supposed to be able to compete with

one about to enter the Grammar School? And yet we daily see his feeble attempts in this direction. As regards discipline, the system is equally faulty. One room *accommodates* 160 pupils. Is it a matter of surprise that the teacher of such a school should find her strength unequal to the work required, and hence should seek a transfer to some other field of labor?

In this connection it may be mentioned, as a fact not generally known, that there are in the different Primary Schools, in different stages of preservation, 1337 old-fashioned chairs without desks. Since the children, even the smallest, are for a large portion of the time busily engaged with their slates in making figures, in printing, in writing, in drawing, and other similar work, it certainly need not be said that a desk is a necessary article of school furniture.

If other considerations were wanting, that concerning the physical welfare of the child would be sufficient, for it cannot be doubted that, bending as the pupils do over their work in the absence of desks, habits are contracted which will prove a lasting injury to them. It seems to me very important that every child in the Primary Schools be furnished with a desk.

Another subject of much importance is that relating to the general care of the school buildings, and their cleanliness and good order. I regret to be obliged to say, that the condition of many of the schools in these respects is far from being satisfactory. The yards and out-buildings of some are constantly in such a state as to violate every principle of decency and good order. Some of our yards need re-grading, since they are frequently wet and uncomfortable. If we cannot yet aspire to the dignity of yards covered with brick or concrete, we ought, at least, to have them well prepared with gravel, which, at the best, is but a poor substitute for them.

The next year should witness a radical reform in the matter of neatness in, and about, the school buildings.

The schools are frequently interrupted by the necessity for repairs, and to a certain extent this is unavoidable; but I venture to suggest the importance of annually making, at the close of the term in July, a careful and systematic inspection of all the school-houses in the city, in order that, so far as possible, all needed repairs may be made during the long vacation.

HEATING AND VENTILATION.

Some complaint exists in regard to the manner in which certain school-houses are heated. The causes for such complaint are either a defective heating apparatus, or a want of skill on the part of the person having charge of the fires; or, as is sometimes the case, a combination of the two evils. In some instances time is lost by the school, because, owing to the low temperature of the room, the ordinary work must, for the time, be suspended. Unfortunately, loss of time is not the greatest evil; since in many cases the health of both pupil and teacher is endangered. I believe that most of the janitors are competent and faithful; certainly it is highly important that only such be selected, and that then each shall be allowed to attempt to do only so much as he can do well. One difficulty at present is, that some of the janitors, owing to the number of schools under their care, are unable to devote that time to each which the true interests of the schools demand.

As regards the system of ventilation, — if it can properly be called a system, — I can only say that it is faulty in the extreme. We have few, if any, school-rooms that are well ventilated. Practically, the doors and windows are our chief reliance in securing pure air, and in some cases the only means. When these are very judiciously managed, no positively bad effects are produced; but it is unfortunate to be obliged to resort to such methods. Most rooms have ventiducts by which the impure air is expected to escape, but in many cases they are so constructed that they are entirely useless; this is quite apt to be the case, since they are generally so placed that the column of air within them, being colder, and hence heavier than that of the room, refuses to ascend. Wherever this fault exists, the remedy consists in artificially heating the air within the ventilator, and it then becomes an efficient means of accomplishing the desired object.

The subject of ventilation has, for many years, been much discussed; but the conclusions reached have generally been unsatisfactory. At present we have, all around us, systems for which much is claimed, and some of which bear evidence of great excellence. I am led to allude to this subject, because of the great need of improvement in this direction, and especially because

of its importance in connection with the erection of new buildings, or the remodelling of old ones.

ATTENDANCE.

Something should, if possible, be done the coming year to improve the attendance upon our schools. Statistics are not always reliable, but the following seem to be well authenticated: The number of children, between five and fifteen, in the city in May, 1868, was 7306; in May, 1869, the number was 7571. The average attendance of pupils in the schools for the year ending February, 1869, was 5191. Thus it is seen that an average of about two thousand children, between the ages of five and fifteen, were absent from the schools. Of the many causes producing such a result as this, the one chiefly deserving attention is the employment of children in manufacturing establishments contrary to the provisions of the law of the State. That law, briefly stated, is as follows: "No child under the age of ten years shall be employed in any manufacturing or mechanical establishment within this Commonwealth, and no child between the age of ten and fifteen shall be so employed, unless he has attended some public or private day-school under teachers approved by the School Committee of the place in which such school is kept, at least three months during the year next preceding such employment; nor shall such employment continue unless such child shall attend school at least three months in each and every year."

I presume I need not remind you that the law makes it the duty of the School Committee in the several cities and towns to prosecute any owner, agent, or superintendent of any manufacturing establishment who may violate this statute. We ought immediately to make a careful canvass of the different districts of the city in order to ascertain, so far as possible, the number of those illegally employed. Doubtless many obstacles will be thrown in the way of those who attempt to do this; but at least approximate results can be reached.

Various expedients have been devised, in different cities, to provide for the education of this class of children of whom I have spoken. Of these I will mention but one. Springfield has

established a "half-time school," of which the Superintendent says: "The details of the school are simply these. The children leave the mills at noon, and instead of returning at a quarter before one o'clock, they go into the school-room at one, have three hours of school, and then return to their work. Thirty operatives are thus taken from the mills; and, that the plea of poverty may be taken out of the mouths of the parents, they are paid for *full* time. If they are not at school, they are not paid; and the attendance is better at that school than at any other in the city."

It may be found that something similar to this is needed in this city.

Omitting now the consideration of the class just mentioned, what can be done to improve the attendance of the remainder? The duty of the truant-officers is made plain by the law of the State as well as by the city ordinance. They are to investigate all cases of habitual truancy, and it is equally their duty to inquire into the circumstances of each child found upon the streets, or in the public places of the city, "having no lawful occupation or business, not attending school, and growing up in ignorance." If I am correct, they, and they alone, are authorized to prosecute such cases as these. The work, then, of these officers is most difficult and delicate, and at the same time in the highest degree important. Other duties should not so encroach upon their time, nor should the field over which they have supervision be so extended, that they cannot have opportunity to examine into the merits of each case presented to them for examination. That the present truant-officers are faithful and efficient is a fact known to all; but they do not, in all cases, have the requisite amount of time, owing to the extent of the work allotted them. We need to know more of the individual circumstances of the absentees than has been the case heretofore. This information must come, either through the efforts of the truant-officers or the teachers; and here I desire to ask teachers to believe that they have this matter of attendance under their control in a far greater degree than they are wont to suppose. No remedy can be devised that will be so effectual an agent in securing good attendance as the constant and well-directed effort of the teacher in this direction. Facts daily coming under my observation warrant this assertion.

We have many teachers who, by inquiring carefully into the causes of absence, and by plainly showing their interest in the welfare of the child, do not find it difficult to enlist, in many cases, the hearty sympathy and co-operation of the parent. In commending such cases as worthy of imitation, I do not forget that the work within the school-room is arduous and severe, requiring the best energies of the teacher; but at the same time I feel that to secure the highest success there is an influence to be exerted and a work to be done outside of the school.

I trust that during the next year the teachers will make every possible effort, consistent with their other duties, to understand the causes of absences as they occur, and use all means within their power to enlist the sympathy and support of the parents. If the teachers will unite their efforts with those of the truant-officers, and both make special effort in this direction, I believe that much may be done to improve the attendance. Unless this can be done, and unless other cities and towns are more highly favored in this respect than we are, it seems to me to be the time for more stringent legislation, that we may have throughout the State, not merely nominally but really, a system of compulsory education.

SCHOOL RECORDS.

With each added year there seems to be a growing interest felt in the important facts connected with our schools, and hence judiciously prepared tables of statistics, if not of general interest, are yet carefully examined by those specially interested in the welfare of the schools. We should have a system of records that shall preserve all items of importance and those of importance only. We ought to be able at any time to obtain all essential facts or figures, or any thing relating to the real history of the school. The present system of records is faulty in the extreme. The facts recorded in the Registers furnished by the State are meagre and unsatisfactory. In place of these we ought to have record books prepared especially for the use of our own schools. These books should be arranged with the greatest care, with printed captions, providing for the preservation of every thing of real interest, and just as carefully excluding all that can have no permanent value. In many instances at present, so far as

records are concerned, the past is a blank; and nothing could with certainty be affirmed excepting that at the present time certain pupils are members of the school.

I shall not now specify what seem to me matters worthy of record; these, as I have said, should be selected with the greatest care; but speaking in general, I would say that every child from the moment he enters the school has a history which should be known and preserved.

If he advances through the school by regular steps and graduates, it should be known; if he is promoted more rapidly than his fellows, this should be known; if he is degraded once or habitually for any cause, it should be known; if he leaves school temporarily or permanently, the time when and the reason why should both be known.

EVENING SCHOOLS.

Three evening schools for males were opened the present season, under circumstances as encouraging as those attending them last year. Three schools for females have also been established the present year, with the prospect of gratifying success.

Having been strongly in favor of the establishment of such schools, and being a firm believer in the demand for this kind of instruction, it gives me great pleasure to be able to report the excellent success of the undertaking.

I cannot believe that there is, in this city, a more judicious expenditure of the public money than that appropriated for this purpose. I know of few sights more gratifying than to see these men and women, most of whom were, in early life, denied all educational advantages, bending over their books with that earnestness of manner which is the sure promise of success.

I gladly testify, too, to the good order uniformly prevailing in these schools. Rowdyism is unknown. Each comes to learn, and seems determined to make the most of his opportunities. A change, by which the number of pupils to each teacher shall be reduced, seems to be highly desirable. The present regulations provide that when the number of pupils reaches forty, an assistant may be employed. This is by far too large a number. In Boston, the number to each teacher has been gradually diminished, until at present it is but twelve, and even this is regarded as too

large a number. The reason for this is apparent, in the fact that it is not possible to have, in these schools, any thing like the classification of the day schools, and hence individual instruction, in most cases, is demanded. Besides many of these pupils are not sufficiently advanced to be able to work with profit to themselves, unless almost constantly assisted by the teacher. I do not hesitate to say that ten, or at the most twelve, are all that can be profitably taught by one person.

Doubtless before the opening of the evening schools for the next season, there will be young ladies in the Training School who will be glad of an opportunity to teach in these schools, where, to the inducement that money is always supposed to be, there will be added the advantage of valuable experience. Such teachers can probably be employed for a moderate compensation, and will be valuable as assistants.

It should be mentioned that these schools are conducted with a strict regard to economy, almost the entire expense being for instruction.

The idea has recently been expressed, by gentlemen whose opinions are worthy of high consideration, that the province of the evening school should be enlarged. In view of the difficulty of enforcing the laws respecting the employment of children in manufacturing establishments, these gentlemen believe that the Legislature should pass an act making six months' tuition in an evening school an equivalent for the three months in a day school now required by law. While I might admit that the six months proposed would be nearly as valuable as the three months now required, still I should deem it unwise to legislate in that direction. I should fear that the influence of such a law would be to decrease the number of those now enjoying the full time in the day schools.

It cannot, I think, be denied that the present law, difficult as it is of execution, does exercise a wholesome restraint upon many parents, who would otherwise gladly withdraw their children from the schools. I believe that any change should be in the direction of more stringent laws regarding attendance, and a more rigid enforcement of them.

TRAINING SCHOOL.

In the month of September last I recommended the establishment of a Training School. The suggestion met with your approval, and a committee was appointed to take the subject into consideration. In October that committee submitted a Report, strongly recommending the establishment of such a school, and also detailing the plan proposed for its organization. This plan met with the hearty approval of the Board, and a committee was appointed to carry it into execution. Arrangements are now nearly perfected; teachers have been appointed, and the month of February has been fixed upon as the time for opening the school. The details of the proposed plan for the school, as well as the advantages confidently expected, have been fully discussed before you, and need not here be repeated.

The question has sometimes been raised whether teachers should not judge of the qualifications of those desiring to join their ranks, in accordance with the principles adopted by the so-called learned professions. It has been argued that a system of this kind would do much to exclude those who are unworthy of the high vocation of the teacher, and would tend to raise teaching to the dignity of a profession. Be this as it may, the fact is apparent that teaching can never assume its proper place, until those who are to enter upon its high responsibilities will subject themselves to a thorough professional training, and will also, so long as they may teach, manifest some degree of professional zeal. With us it was felt that the great need was a school where young ladies graduated from our High School might be trained in the best methods of instruction and of discipline, while at the same time they might have constant practice in the actual work of the school-room, under the eye of an experienced instructor, who would be competent to see their faults, and faithful enough to expose them.

This last point deserves consideration, just because experience gained in this way is so much more valuable than that acquired in the ordinary manner; for it must never be forgotten that experience does not necessarily imply skill.

I presume I am not called upon to attempt to prove that a Training School was needed in this city.

We were constantly having vacancies in the schools, and at the same time there was no lack of young ladies willing to fill them; but to employ such, being in most cases entirely without experience, with no definite ideas of the actual work to which they aspired, was not in all cases deemed expedient. The result has been, that with much difficulty, and sometimes after repeated disappointments, several teachers of experience elsewhere, have been secured for positions here. During the year just closing nine ladies who were residents of Cambridge have received appointments, while an equal number of non-residents have been chosen.

It is not claimed that the establishment of a Training School will entirely change this; that it will in a great measure it is fair to conclude. Neither is it supposed that all who enter this school are hereafter to be equally successful as teachers; on the contrary, it is expected that it will be clearly demonstrated to many, that they lack the necessary qualifications for the work. One of the chief advantages of the school will be that it will furnish a test of the ability and strength of those who enter it as pupils; so that the appointment of teachers from this number will not be so entirely a matter of chance as formerly. Certainly it will be true here, as elsewhere, that the highest success will only be found where native talent, and aptitude for teaching, are joined to earnest and persistent effort; and yet I wish here to say, that with singular unanimity the statement comes from the different cities and towns where Training Schools have been established, that among the graduates of these schools, who are now teaching, there are few if any failures. Might we not expect just this result? These teachers have served an apprenticeship, and have discovered that a knowledge of the art of teaching does not come by intuition any more than does skill in mechanics, in medicine, in law, or in theology. They have learned that there are laws governing the development of the mind, and have made some progress in understanding their operation. They have been taught the importance of careful preparation, on their part, for each exercise if they would interest their pupils. They have learned to value method and order in every thing they attempt. They have seen, that if they value success they must bring to the school-room fidelity to their work, cheerfulness, enthusiasm, and self-control. They have, in fact, been brought face to face with some of the

actual difficulties which they must sooner or later meet; and the experience thus gained must be, in the highest degree, valuable.

I desire to add that the entire success of the Training School seems assured in the recent appointment, as teachers, of those who unite, in a high degree, the qualifications demanded for so responsible a position.

DRAWING.

Within a few months Drawing has been made a regular branch of instruction in all of the schools, with the exception of the High School. It was felt, at the outset, that the success of this as a branch of study would depend in a great measure upon the manner in which teachers met the requirements upon them. I am happy to be able to say that with very few exceptions they have entered upon the work with an earnestness that will insure success. Even the few who at first thought it a useless study, — who believed it could not be taught successfully, — who were sure there was no time for it, — who felt that it ought not to encroach upon the *useful* branches, — these are nearly all confessing their mistake, and are earnestly entering upon the work.

It is too early to speak with confidence of results; and yet I do not hesitate to say that in the interest manifested by both teachers and pupils the success has been as gratifying as it has been unexpected. In several instances, even among the smaller children, quite remarkable evidences of skill have already been shown; but in comparing the different schools, or different pupils in the same school, it is not found that a greater disparity exists in this than in other studies. As in every thing else some will excel, but all can produce satisfactory results. That drawing has so long been neglected in our schools is a matter of surprise. When we consider that it is in itself highly useful; that it trains eye and hand for numberless purposes; that it directly aids the pupil in writing, in map-drawing, and in much of the other school work; that it teaches correct habits of observation; that it greatly enlarges the field of enjoyment and of influence; when we consider this, we cannot hesitate to accord to it a place among the *practical* studies.

I desire here to repeat that nearly 1400 pupils in the Primary

Schools are unprovided with desks. I mention it in this connection, because it is a fact having much to do with the success of the teaching of drawing in this grade.

VOCAL MUSIC.

The progress of the schools in the department of Vocal Music, during the year, has been highly satisfactory. In addition to the labors of our experienced and successful Teacher of Music, who has succeeded in imparting his own enthusiasm to his pupils, the other teachers have united most cordially with him in whatever he has attempted, while at the same time they have given more of personal attention to this department than ever before. The teachers are better prepared than formerly to aid in this work, since they are becoming more and more familiar, both with the science of music, and the methods of giving instruction in it. It is fortunate that such is the case; for the time is soon coming, if it has not already arrived, when each teacher should be expected to carry on the work in this branch of study much the same as in any other. This result has been secured in many of the cities in this vicinity. The work is done by the regular teacher of the class, subject to the general direction and supervision of the special teacher. I am happy to state that the teachers in this city are in advance of the requirements upon this point, and they deserve all the more credit, just because they are, in so many cases, anticipating what the Regulations have not yet required.

In nearly every Primary School the teacher has, during the year, taught music as a stated exercise; and, whenever this has been done, most excellent results have been secured. The same plan has been followed, in some instances, in the Grammar Schools, and always with like success. Now this, which the good sense of so many teachers has led them to do voluntarily, should become the uniform method of instruction. We now have seventy-eight classes which the Teacher of Music is expected to visit, and it is fair to assume that this number will be much increased within the next few years. It is quite evident that one person cannot assume the responsibility of the instruction in all these classes, nor can he do the entire work. I repeat, that

music should, for the most part, be taught to each class by its own teacher; and then we can have, as we ought, a short daily exercise, which, especially in the Primary Schools, is a matter of so much importance.

In saying that there has been decided progress in this important department, I do not intend to imply that the scholars have merely been crammed with songs to regale the ears of delighted visitors; on the contrary, I believe the work has consisted in the thorough teaching of the elementary principles of music; and the results everywhere apparent are my warrant for this opinion.

The facility with which even the Second and Third Classes in the Primary Schools are enabled to read music is most remarkable, and clearly demonstrates that a child can be taught to read music almost as readily as he can be taught the alphabet.

No argument is needed to prove the importance of musical instruction in our schools, nor to demonstrate that such instruction should be within the reach of each pupil, in whatever grade he may be.

The suggestion is made that a more thorough system of examinations be adopted in this department, with the design of stimulating effort on the part of the pupil, as well as of ascertaining exactly what the results now are. As bearing upon this point, I quote from the Report of the Teacher of Music in New Haven: "It has been thought by many that singing is an especial gift, whereas the facts are, that, amongst children who have had even limited advantages in this direction, those who cannot sing are the exceptions. In proof of this statement, I will remark, that, in a critical examination of upwards of fifty rooms, at the close of the late spring term, not an average of one scholar in a room could be found unable to sing the exercises required; and even of that number a large proportion were scholars of the highest rooms, many of whom, in their earlier years, had enjoyed no opportunity for practice."

I trust that the results of a similar examination here would be equally satisfactory.

It seems to me highly desirable that each Grammar School be furnished with a piano-forte. At present three of these schools are temporarily supplied, and in each instance it has been done

by the efforts of the pupils. It is hardly consistent with the dignity of a city like Cambridge to allow its children to solicit contributions for such a purpose as this.

PRIMARY SCHOOLS.

As regards the matter of discipline in the Primary Schools during the year, great disparity has existed. In some cases — perhaps because the teacher was endowed with those indescribable qualities which will always command obedience, or possibly because of more favorable circumstances in the character of the pupils, or in the school arrangements — the discipline has been highly satisfactory. In other cases the reverse is true. Upon this point I have only to say, that, differ as we may in regard to our views of the policy of resorting to the use of corporal punishment to enforce obedience, we shall all, I think, agree, that if we are to continue the present rule upon this subject, it becomes in the highest degree important that the number of pupils to each teacher be much less than the system of large rooms necessitates. There are teachers who can control one hundred pupils, or more; but such teachers are extremely rare, and we can hope but seldom to secure and retain the services of such. So far as there has been a failure, or a partial failure, in securing a proper state of discipline, the effect has, of course, been felt in all the departments of the school work; but, notwithstanding whatever hindrance there may have been in this direction, I do not hesitate to say that, in very important respects, the Primary Schools have made excellent progress during the year.

A visit to almost any of them will show the marked improvements in methods of instruction, as compared with those of two years ago. Until that time, scarcely a Primary School in the city was supplied with slates; now they are regarded as nothing less than a necessity. The child begins to print as soon as he begins to learn to read, and continues this till he is initiated into the mysteries of writing script letters; while, at the same time, he practises making figures, copies various exercises given by the teacher, spends a little time in drawing; and, in short, finds the slate a most efficient aid in acquiring nearly every thing he is taught. The result is, the scholar is happier, and advances more

rapidly than under the sitting-still system of the past; while, at the same time, he has accomplished much that was formerly reserved for a more advanced grade, but which can just as well be taught in the Primary School.

The result of this cannot be too highly estimated, especially when it is remembered that so many never enter the Grammar School, but must depend upon the Primary School for whatever instruction they are to receive. In some directions, just indicated, as well as in others that might be specified, most teachers are now doing more than is required by the Regulations. For instance, some of the teachers, in a sensible way, by the aid of objects, a numeral frame, or whatever may be of advantage, give simple exercises in number, at the very entrance of the child into the school, and continue these in some form throughout the course; but the Plan of Study requires nothing of the kind until the pupil reaches the Second Class. Some classes are taught something of notation, but it is not specified in the Plan of Study; neither is writing a required branch. What I have said will sufficiently indicate my reasons for believing that our Course of Study for the Primary Schools should be revised. I urge this, because I consider the present plan defective, and because I believe that experience has clearly proved, that, for the guidance of a majority of teachers, and in order that uniform results may be produced, a Programme of Study must be adopted which shall be full and specific in its requirements. The present course of study, being quite general in its terms, leaves too much to the discretion of the teacher. We should not so far indicate the precise *manner* in which every thing is to be taught as to trammel the teacher; but we should very clearly define *what* shall be taught. If slates are to be used; if the idea of number is to be developed by the use of real objects; if the sounds of the letters are to be taught; if we are to have "oral instruction," or "object teaching," — if we are to have either or all of these, the fact should be clearly stated. In this way, and in none other, can we have a systematic course of instruction and a uniformity of results.

Regardless now of the branches required to be taught, has the instruction, in all cases, been entirely satisfactory? That it has been generally good, and that the results accomplished have been better even than in previous years, I do not hesitate to affirm;

but is there not room for improvement still? Is not the disparity to which I have alluded greater than it need be? Differences must of necessity exist, but inequalities are sometimes seen which are in no sense necessary. We shall see an improvement in this direction just so soon as each teacher shall feel that she is inexcusable if she does not seize upon every opportunity to make herself acquainted with the best methods of instruction in the different branches she is called upon to teach. She is by no means to feel that she must accept every system brought to her notice, or *any* system, unless she believes that greater success will thereby be gained; but she is bound, it seems to me, to know something of the methods of those whose success renders their opinions worthy of consideration, and then to adopt or reject such methods, according as her judgment shall dictate. Even if it could be shown — as it certainly cannot — that the work of the teacher is inferior in importance to that of the toiler in the shop, or upon the farm, it would still be true that no teacher wholly indifferent to the progress constantly making in the educational work, and never attempting to understand her own shortcomings, would be worthy of confidence.

I certainly shall not be thought to speak with undue severity when I say that while most of our Primary teachers have labored during the year faithfully and successfully, and some preeminently so, at the same time a few have not manifested that zeal and enthusiasm which a high degree of success demands. We need, not only in this city, but throughout the country, more of professional enthusiasm on the part of teachers.

As bearing upon this point, I desire to quote from the accomplished Principal of the Westfield Normal School, who has recently had extended observation in Germany, where teaching is a profession.

"All School authorities, including the teachers themselves, being a branch of the general government, are much respected, and are able to exert a commanding influence. The German teachers study most carefully the philosophy of their work. They have adapted their courses of study, and their methods of teaching, to the wants of the human mind. They make human culture the end of study and teaching. Two ideas guide them in marking out their courses of study. One has reference to the

selection of topics, the other to the arrangement of these topics. Such a selection of topics is made as will lead the mind of the student to all kinds of activity in studying them. The method of teaching employed, requires the actual presence to the senses of all objects, and to the intellect of all subjects, of study. The Primary Schools are generally taught by the most learned and skilled male teachers, who give the elementary instruction with all the enthusiasm that this important instruction is adapted to excite. Such instruction, in Germany, is never intrusted to unskilled hands; nor do the authorities allow a frequent change of teachers in the Primary Schools."

I had purposed to speak somewhat specifically of the instruction in the Grammar Schools, but my limits will permit but one or two general statements.

Here, as in the Primary Schools, great inequality exists. But without dwelling upon the many excellences brought to my notice, and the many cases, as in the Primary Schools, of almost model teaching, I desire to mention one or two faults sometimes apparent. A weakness more or less observable with many teachers, consists in a slavish dependence upon the text-book. There can be no good teaching when the instructor is trammelled in this way. So far is this of which I am speaking an evil, that it might be well to require that in one branch, at least, no text-book shall be in the hands of the teacher during the recitation. It is a fault sometimes seen, to require the pupils to repeat the precise words of the text-book, and to be satisfied with this whether he understand the subject or not. It is a mistake common to many teachers to make too much of set forms and formulas; so that the scholar may well feel that he is most unfortunate if he have originality, either of thought or of expression.

Another evil, as I think, is seen in the fact, that in some cases teachers require the pupil to commit to memory a mass of unmeaning words in the shape of descriptions, definitions, and rules, without anticipating them by explanations that would render it possible for them to be understood. It is certainly very unphilosophical to thrust multiplication, for instance, upon a child by compelling him to commit the rule before he has seen the first step in its application. The rule in such a case, instead of being an intelligent statement of a process with which he is somewhat familiar, becomes

merely a combination of unmeaning phrases. Doubtless a certain amount of rote-work, parrot-work, or whatever it may be called, is a necessary evil in all schools, but I trust we shall give such attention to it as to reduce it to its narrowest limits.

In what I have said, I have dwelt upon the needs of the schools, and upon faults that are apparent, rather than upon excellences, not because this was more pleasant, but because I hoped it might be more profitable. I commend the schools to your care, believing them worthy of your highest confidence and your most cordial support.

For myself, I can only say that I have the consciousness of having labored, during the past year, with fidelity in the work which you have placed in my hands. That I have done much towards elevating the character of our schools, I cannot hope ; I find satisfaction only in the thought that I have done what I could.

I cannot close without alluding to the cordial sympathy and co-operation at all times manifested by the teachers. Nothing has done more to encourage me in my work than the kindly spirit with which they have everywhere met me.

So, too, I have found strength in the bright faces of scholars, who, in the school-room and elsewhere, have always extended to me a cordial greeting.

From your Board I have at all times received kindness, consideration, and support.

Your uniform courtesy, whether personal or official, I gratefully acknowledge, and shall long remember.

Respectfully submitted.

E. B. HALE,

Superintendent of Public Schools.

VALEDICTORY ADDRESS

OF

HIS HONOR, MAYOR SAUNDERS,

WEDNESDAY EVENING, DEC. 29, 1869.

GENTLEMEN OF THE CITY COUNCIL, —

The precedent having already been established of making a brief address at the close of the year, showing the condition of some of the principal Departments of the city, I have thought it would be proper and perhaps gratifying to you if this example was followed by me the present year. As public stewards, it becomes us to give some account of our stewardship, and for this purpose I propose to review briefly some of the results of our action for the past two years, which are and must be somewhat connected. I would here remark that I deem it improper for a retiring administration to recommend or suggest any form of action for a future one. A new government should be untrammelled, and free to adopt a policy for which it alone will be held responsible. I intend, therefore, merely to review or sum up the past, leaving all suggestions for the future to be determined by my worthy and esteemed incoming successor.

FINANCE.

By the Report of the City Treasurer, just presented and ordered to be printed with the City Documents, it appears that the total amount of funded City Debt on the first day of December, 1869, was	$1,300,400.00
By the City Document for 1868 it appears, from the Report of the same officer, that the amount of funded City Debt Dec. 1, 1867, was	1,013,400.00
Showing an increase during the past two years of . .	$287,000.00

This amount has been expended wholly for the construction and extension of the Water Works, and will be paid by the Sinking Fund at maturity, without resort to taxation from the earnings of the Works; and I would here congratulate you that, with a much larger amount of permanent improvements than has ever previously been made in a similar period, we can say that no city debt has been created or even increased for any one of them, with the exception above named.

The total cost of the Water Works to December 1, 1869, was $828,400, which sum, deducted from the amount of funded debt, will leave a balance of $472,000 as the amount of funded debt not provided for by a sinking fund, and to be paid by taxation. With the present number of polls and valuation of the city, a special assessment of about $11.60 per thousand would pay off the whole amount of this debt in a single year. We have also a sinking fund for the Water Works of upwards of $28,000.

The present valuation of the city is	$39,210,900.00
The valuation of the city in 1867, was	31,853,500.00
Increase in Property during the past two years, . . .	$7,357,400.00

Being a gain of nearly 25 per cent. The number of polls at this time is 8933. Increase in two years, 1126.

The following are some of the permanent improvements made during the past two years, and paid for by taxation, viz.: —

Widening of Main Street (including land damages), costing	$10,296.00
Shade-trees on Main Street, and guards for do. . . .	525.00
Lot of land in Ward Four, 224,000 feet	8,690.00
Lot of land in Ward Three, 115,000 feet	8,000.00
New Stone Lodge, at Cemetery, Bridge, Shed, &c. . .	6,756.00
Marble Tablets in Soldiers' Lot	703.00
Improvements on Coolidge Avenue	713.00
Do. in Old Burial-ground in Ward One	631.00
Fencing, grading, and laying out Burial-ground, for a Park in Ward Two	5,313.00
Amount paid towards the Soldiers' Monument, including foundation, about	10,000.00
Fire-alarm Telegraph, costing	10,000.00
Brick Sidewalk on Main Street, from Harvard Square to West Boston Bridge	21,779.00
New Hose-carriage, Horses, &c., for Ward Five . . .	1,600.00
Amount carried forward	$85,006.00

Amount brought forward	$85,006.00
New brick Engine-house, Police Station, and Ward-room, Ward Five	15,770.00
New School-house in Ward Two	15,746.00
New School-house and Land, Ward Four	10,461.00
New School-house and Land, Ward Five	8,132.00
Furniture for above School-houses	3,983.00
Fence built around Hastings Square	409.00
Land purchased for a new School-house in Ward Four,	6,016.00
Insurance has been procured upon the public property of the city, for five years (instead of a single year, as usual), at a cost of	5,044.00
Making for above improvements, beyond the current expenses of the city, in two years	$150,567.00

Or about 17 per cent. of the amount raised for city purposes during this period. The lots of land purchased in Wards Three and Four have greatly advanced, and their present market value is estimated at not less than $30,000, which would add $15,000 to this amount.

The above is a brief summary of some of the principal improvements made, the expense of which has been defrayed from a rate of taxation much below the average of the State. The rate for 1869 was $13.44 per thousand net, while the average of the cities and towns of the State was $15.52. Besides the above, the police force has been increased, and a neat and serviceable uniform adopted. Evening schools have been maintained in each police district. The salaries of the teachers in all the public schools have been increased by the Committee, and a Superintendent of Schools appointed. Our Municipal Register, published in 1857, has been carefully revised by the City Solicitor, with the new Ordinances added, and is now in the hands of the printer. An office has been fitted up for the City Engineer, and a large fire-proof safe purchased, capable of holding all the plans of streets and sewers of the city, and they are now secured against loss or damage by fire. They were previously liable at any time to be destroyed. The collection is a very valuable one, and could not be replaced if destroyed. Authority has been obtained from the Legislature to raise the grade of the territory

on the northerly side of Main, near the junction of Harvard Street, and to assess the expense upon the territory thus improved. A City Forester has been employed the present year, and the trees upon the commons and a large number of the streets have been properly attended to. The charter of the city has been amended by giving to the Mayor the veto power, and also the casting vote in the Boards of School Committee and Overseers of the Poor.

More than $33,000 is now due the city for assessments upon sewers and edgestones, the Oxford-street sewer not included, which will go into the ways and means of the new year. Balance of cash on hand Dec. 1, 1869, $63,338, which, added to the above, shows cash assets for the new year, Dec. 14, $96,338. Balance on hand, and sewer and edgestone assessments due Dec. 1, 1868, $102,375. The same items Dec. 1, 1867, $83,797.

SCHOOLS.

Our schools, which have always been our pride, and which we deem of such vital importance to the perpetuity of our free government, have received much attention the past year. They are expected to keep pace with our growth, by increased facilities for developing and maturing the minds of the pupils. A school for the training of teachers has been ordered to be kept, and a lot of land has been purchased for a new primary school-house in the Fourth Ward. During the year, nine members of the Committee out of the fifteen have resigned, the effect of which must be detrimental to the success and discipline of the schools. They are, however, generally making good progress, and I trust will continue to meet the just expectations of our citizens. Amount expended the past year, $94,161.

STREETS.

Owing to our unparalleled growth the past two years, it has become necessary to expend larger amounts in every department, especially upon the streets and sidewalks, the benefits of which

are shared so generally by all our citizens. The effect of these improvements will be still more to stimulate this growth. About twelve and a half miles of edgestones have been set, and 67,336 yards of street paving completed, the past two years. About $40,000 was expended in 1868; but, owing to pressing demands from all sections of the city, the large sum of $96,576 has been expended during the present year. All of our principal streets have been thoroughly repaired, and the sidewalks have received special attention. A large number of street crossings have been laid; and a brick sidewalk, with edgestones and paved gutters, completed from Harvard Square to West Boston Bridge. This is the most marked feature of our street improvements the present year. Coolidge Avenue, as far as the Cemetery, has been thoroughly graded, and a sidewalk constructed on the easterly side, much to the convenience of the large number who now visit our Cemetery. The streets are now in fine condition, and the work bestowed upon the sidewalks and the many additional crossings is, I think, fully appreciated.

SEWERS.

The increased demand for sewers has been to a great degree met, as the large expenditure will indicate. About 12,282 feet, or two and a half miles, have been built the present year, at an expense of $35,106. A contract has been made for the Oxford-street sewer for the sum of $43,752; work was commenced early in the season, but, owing to meeting the obstruction of a stone ledge in Chestnut Street, the progress has been much retarded. About 1411 feet out of 5000 have been completed. This obstacle is now nearly overcome, and it is expected to be completed during the coming season. But one opinion has existed in the minds of the Committee on Reservoirs and Drains, the past two years, of the necessity of the project for the prospective growth and development of a large tract of territory hitherto unvailable.

WATER WORKS.

The Water Works are now completed, and afford an ample supply for the various wants and uses of the city. Our facilities are now equal to any emergency, and will supply the needs of a much larger population for many years to come. We now have about fifty-four miles of mains, and two new and thoroughbuilt reservoirs, with a stand-pipe supplying the water to the highest parts of the city. Besides the two original pumps, a new one of great power has been finished the present year, at a cost of $40,000. The Works have now become a profitable investment for the city: the income, after paying all expenses, yielding about seven per cent. on the entire water debt. Their success is now fully established, and is shown by the large annual increase of the receipts; viz.: —

Income from the Works,				1867,	was	$66,040
"	"	"	"	1868,	"	79,434
"	"	"	"	1869,	"	91,347

Increase of receipts the past two years, $25,307. This amount exceeds largely the estimate made, and the above result is the best evidence of the certainty of the earnings being sufficient to pay off the entire water debt at maturity.

BRIDGES.

A large appropriation was made early the present year for a new iron pivot draw in West Boston Bridge, and the plans and estimates procured, the same to be completed by October 1. Every effort has been made, and much time spent, to remedy this great annoyance the present season; but, owing to the demands of the Harbor Commissioners (who claim the supervision), that the draw be removed westward from the present location some five hundred feet, thereby requiring a new channel to be dredged out at much additional expense, the matter was recommitted to the Committee, and afterwards, on their recom-

mendation, referred to the next City Government. The Brookline Bridge is soon to become free. It is now being considered by Commissioners, and a portion of the expense of its maintenance will doubtless fall in the future upon the city.

FIRE DEPARTMENT.

The efficiency of this department has been largely increased the present year by the erection of the Fire-alarm Telegraph, and it has already proved quite satisfactory. A new steam fire engine has been purchased for Ward Five, and the department now consists of four steamers, one hand engine, and one hook-and-ladder carriage. A larger number of fires has occurred the present year than usual, and the discipline of the force has been fully tested. A supply of new hose, which has long been needed, has recently been ordered to be purchased by the City Council, and the department is now in a very gratifying condition.

SOLDIERS' MONUMENT.

The subject of the erection of a Soldiers' Monument has largely engaged the attention of the City Council the past year. A beautiful design has been adopted and placed under contract, to be built of a light-colored granite, for the sum of $25,000, above the foundation. The work is far advanced upon every portion of the same, and the statue and bronze tablets are nearly finished. The foundation has been securely built, and the corner-stone was laid June 17 last. The sum of $6,000 has been paid on the contract for the monument, besides the expense of the foundation. The work has been prosecuted with much vigor; but, owing to causes beyond the control of the Committee, it was found impossible to secure its completion November 1, the time specified. The contract has been extended to June 15 next, and it is hoped and expected that it will be in readiness for dedication June 17, 1870. I regret exceedingly that, notwithstanding every effort possible for the Committee to make,

its completion could not have been consummated the present year. Every precaution has been taken to secure for our city a Monument every way creditable to the men and the cause it will ever commemorate.

GENERAL REMARKS.

Among the various projects which have come before us during the past two years, there are two which, in importance and positive effect upon the future prosperity of our city, cannot now be estimated. I refer to the Oxford-street sewer, which will afford drainage to an immense territory, and enable it to be developed with valuable taxable property, which in its present condition cannot be, and to the territory in the Second Ward, sometimes called the "Church Street" District. It is a wise foresight that provides for the reclamation of this tract now, before it is further occupied and its value enhanced. A careful management of this property, under the act of this year, will produce the most satisfactory results, both in a pecuniary and a sanitary point of view. This improvement can be carried out at a large profit to every owner of this property. The act continues for five years; and so well satisfied were the Committee of the Legislature, after viewing the premises, that all the power asked for was granted, notwithstanding some of the owners appeared before them in opposition. This territory is now being surveyed by the City Engineer, so that the work can be commenced early next year. When we consider that this improvement is but a question of time, it is to be regretted that more progress could not have been made the present season. The lots of land previously alluded to, in Wards III. and IV., contain 339,000 feet, or upward of 7 3-4ths acres, were well purchased, and will prove highly remunerative. Being centrally situated, they have already advanced and will continue to advance. Authority was given to the Committee on Finance, in April last, to incur a city debt of $25,000 for the construction of additional sewers which it was deemed necessary to build this year. I am

happy to say that these sewers have mostly been built, and that no city debt has been created therefor.

By a careful inventory just taken, it appears that the number of dwelling-houses erected the past year is 545; stores and other buildings, 108; making a total of 653 new structures: being the largest number ever erected in a single year. The number erected in 1868 was 595, and in 1867 about 250. These figures denote unmistakably our present condition and growth, and are unprecedented in our history. Our population is now estimated at upwards of 40,000; and it is most gratifying to me to know that, in resigning this great responsibility into other hands, I do so at a period of our city's greatest prosperity.

CONCLUSION.

I have thus briefly reviewed the results of our official action, the duties of which we have endeavored to perform faithfully and successfully. The cares and responsibilities of office, in a growing municipality like ours, rest not lightly upon any member, while the consciousness of duty faithfully performed is the reward above all others we should crave. I am glad of this opportunity to bear my testimony to your faithful observance of the obligations you assumed, and to the fidelity of your action upon the various questions that have come before you. I congratulate you upon the success of your labors, and the present financial prosperity of our city. Rapidly increasing in population and wealth, we shall continue to advance still more rapidly if a broad and comprehensive course of action is continued, and the means for its growth provided. In the hours we have here spent together, mutual ties and associations have been formed which can never be forgotten; and it should be to us a source of thankfulness that during the past two years our number has been unbroken by death. We are with this session to close our official labors together, and to surrender the trust confided to us into other hands. For the uniform courtesy I have received from each one of you at all times, I tender you my warmest thanks.

I have received naught but kindness from you all, and I heartily assure you that I shall carry into the future pleasant memories of the official intercourse here enjoyed. To each and every member of the City Departments I return my acknowledgments for their cordial co-operation and assistance in the discharge of my official duties.

CHAS. H. SAUNDERS.

CAMBRIDGE, *Dec.* 29, 1869.

GOVERNMENT

OF

THE CITY OF CAMBRIDGE.

1870.

MAYOR.

HON. HAMLIN R. HARDING.

ALDERMEN.

DANIEL U. CHAMBERLIN,
JEREMIAH W. COVENEY,
D. GILBERT DEXTER,
LEWIS B. GUYER,
JOHN S. MARCH,
GEORGE W. PARK,
HORATIO G. PARKER,
AARON H. SAFFORD,
AMOS C. SANBORN,
JAMES H. SPARROW.

ALDERMEN, BY WARDS.

Ward I. Aldermen PARKER and SAFFORD.
Ward II. Aldermen CHAMBERLIN and MARCH.
Ward III. Aldermen COVENEY and GUYER.
Ward IV. Aldermen SANBORN and SPARROW.
Ward V. Aldermen DEXTER and PARK.

COMMON COUNCIL.

JOSEPH H. CONVERSE, *President.*

Ward I.

ISAAC BRADFORD,
THOMAS G. LALLY,
SAMUEL K. WILLIAMS, JR.,
JOHN WILSON.

Ward II.

Samuel P. Adams, Joseph H. Converse,
J. Milton Clark, Thomas Devens,
James H. Hall.

Ward III.

George R. Brine, William G. Hill,
Augustus W. Fix, Robert L. Sawin,
John McSorley.

Ward IV.

Leander Greely, Gustavus A. Smart,
James Richardson, Seymour B. Snow.

Ward V.

Francis M. Mason, Robert Stewart.

CLERK.

J. Warren Cotton.

PAGE.

Harry H. Knights.

CITY CLERK.

JUSTIN A. JACOBS.

CITY MESSENGER.

Roland Litchfield, Jr.

COMMITTEES OF THE CITY COUNCIL.

JOINT STANDING COMMITTEES.

ON FINANCE.

The Mayor.

ALDERMEN.
John S. March,
Horatio G. Parker.

COMMON COUNCIL.
The President,
Seymour B. Snow,
Robert L. Sawin,
John Wilson,
Isaac Bradford,
Francis M. Mason.

ON PUBLIC INSTRUCTION.

ALDERMEN.
George W. Park,
Lewis B. Guyer.

COMMON COUNCIL.
The President,
James H. Hall,
Gustavus A. Smart,
Isaac Bradford.

ON ORDINANCES.

ALDERMEN.
John S. March,
George W. Park.

COMMON COUNCIL.
Samuel P. Adams,
Seymour B. Snow,
William G. Hill.

ON ACCOUNTS.

ALDERMEN.
Amos C. Sanborn,
Jeremiah W. Coveney.

COMMON COUNCIL.
Isaac Bradford,
Robert L. Sawin,
Francis M. Mason.

ON PUBLIC PROPERTY.

ALDERMEN.
Daniel U. Chamberlin,
Lewis B. Guyer.

COMMON COUNCIL.
James Richardson,
Thomas G. Lally,
Samuel K. Williams, Jr.

ON THE ALMSHOUSE.

ALDERMEN.	COMMON COUNCIL.
D. Gilbert Dexter,	John Wilson,
John S. March.	Leander Greely,
	Augustus W. Fix.

ON ROADS AND BRIDGES.

ALDERMEN.	COMMON COUNCIL.
James H. Sparrow,	John McSorley,
Aaron H. Safford.	James H. Hall,
	Samuel K. Williams, Jr.

ON RESERVOIRS AND DRAINS.

ALDERMEN.	COMMON COUNCIL.
George W. Park,	Leander Greely,
Amos C. Sanborn.	John McSorley,
	Thomas Devens.

ON FUEL.

ALDERMEN.	COMMON COUNCIL.
James H. Sparrow,	William G. Hill,
Jeremiah W. Coveney.	Thomas G. Lally,
	J. Milton Clark.

ON LAMPS.

ALDERMEN.	COMMON COUNCIL.
Aaron H. Safford,	Thomas Devens,
Amos C. Sanborn.	Robert Stewart,
	Augustus W. Fix.

ON WATERING STREETS.

ALDERMEN.	COMMON COUNCIL.
John S. March,	George R. Brine,
Aaron H. Safford.	J. Milton Clark,
	James Richardson.

ON PRINTING.

ALDERMAN.	COMMON COUNCIL.
D. Gilbert Dexter.	James H. Hall,
	John Wilson.

ON THE FIRE DEPARTMENT.

ALDERMEN.	COMMON COUNCIL.
Jeremiah W. Coveney,	Leander Greely,
Horatio G. Parker.	Samuel P. Adams,
	Thomas G. Lally.

ON CITY ENGINEERING.

ALDERMEN.	COMMON COUNCIL.
Horatio G. Parker,	Isaac Bradford,
D. Gilbert Dexter.	Gustavus A. Smart,
	George R. Brine.

Standing Committees of the Board of Mayor and Aldermen.

ON POLICE.

The Mayor,	Horatio G. Parker,
John S. March,	Lewis B. Guyer.

ON THE FIRE DEPARTMENT.

Jeremiah W. Coveney,	Daniel U. Chamberlin,
	Horatio G. Parker.

ON ROADS AND BRIDGES.

James H. Sparrow,	Aaron H. Safford,
	Lewis B. Guyer.

ON RESERVOIRS AND DRAINS.

George W. Park,	Amos C. Sanborn,
	Aaron H. Safford.

ON LICENSES.

John S. March, Jeremiah W. Coveney,
James H. Sparrow.

ON HEALTH.

Horatio G. Parker, Daniel U. Chamberlin,
Jeremiah W. Coveney.

Standing Committees of the Common Council.

ON ELECTIONS AND RETURNS.

George R. Brine, Robert Stewart,
J. Milton Clark.

ON BILLS IN THE SECOND READING.

Samuel P. Adams, William G. Hill,
Robert Stewart.

ON ENROLLED ORDINANCES.

John Wilson, James Richardson,
Francis M. Mason.

Board of Health.

THE MAYOR AND ALDERMEN.

Surveyors of Highways.

The same persons who compose the Board of Mayor and Aldermen.

Auditor of Accounts.

JUSTIN A. JACOBS.

Treasurer.

JOSEPH WHITNEY.

Collector of Taxes.

JOSEPH WHITNEY.

Assessors.

LEVI L. CUSHING, JR.,
ARTEMAS Z. BROWN,
ANDREW J. GREEN.

Assistant Assessors.

WILLIAM CALDWELL, OZIAS CLARK,
RUFUS LAMSON, JOHN M. ST. CLAIR,
JAMES H. CUTTER.

School Committee.

Hamlin R. Harding, Mayor, *ex officio*, *Chairman*.

Ward I.

Lyman R. Williston, Alexander McKenzie,
Henry P. Walcott.

Ward II.

Kinsley Twining, James Cox,
Edward R. Cogswell.

Ward III.

Charles J. McIntire, Joseph H. Tyler,
Grove H. Loomis.

Ward IV.

Sumner R. Mason, James M. Thresher,
William A. Munroe.

Ward V.

Jabez A. Sawyer, Francis A. Foxcroft,
Philip R. Ammidon.

Secretary.

W. W. Wellington.

Overseers of the Poor.

The Mayor, *ex officio*, *Chairman*.

Benjamin F. Wyeth, Joseph H. Rice,
Samuel C. Knights, Charles R. Patch,
William Brine, Lewis B. Guyer.

Clerk.

Benjamin F. Wyeth.

Warden of the Almshouse.

Joseph W. Averill.

Physician of the Almshouse.

James R. Morse, M.D.

Cambridge Cemetery.

Commissioners.

The Mayor, *ex officio*.

John C. Farnham, Z. L. Raymond,
Daniel U. Chamberlin, Charles M. Hovey,
George S. Saunders, John M. Tyler.

Superintendent.

James K. Farwell.

Trustees of Dana Library.

The Mayor, *ex officio*, *Chairman.*

Alderman.
John S. March.

Common Council.
Gustavus A. Smart.

Citizens at Large.

Charles Deane, William W. Wellington,
Anson P. Hooker.

Librarian.

Miss Caroline F. Orne.

Cambridge Water Board.

The Mayor, and President of the Common Council, *ex officio.*

Albion K. P. Welch, Samuel Slocomb,
John Sargent (President), Robert Douglass,
Chester W. Kingsley.

Clerk.

Justin A. Jacobs.

Superintendent of Water Board.

Water Registrar.

Abiel F. Fifield.

Trustees of the Sanders Temperance Fund.

The Mayor, and President of the Common Council, *ex officio*.

Alderman.	Common Council.
Aaron H. Safford.	James H. Hall,
	Seymour B. Snow.

Trustees of the Dowse Institute.

The Mayor, and President of the Common Council, *ex officio*.

Charles Deane, John C. Dodge,
William W. Wellington.

Representatives in General Court.

James R. Morse, Joseph Newmarch,
Curtis Davis, Alonzo B. Wentworth,
Charles J. McIntire.

Police Court.

Standing Justice.

John S. Ladd.

Special Justice.

Henry W. Muzzey.

Clerk.

Thomas McIntire, Jr.

City Engineer and Surveyor.

Josiah G. Chase.

Superintendent of Streets and Drains.

George L. Cade.

Superintendent of Lamps.

ROLAND LITCHFIELD.

Board of Engineers.

Chief Engineer.

GEORGE B. EATON.

Assistant Engineers.

First Assistant	Thomas J. Casey.
Second Assistant	Joseph H. Marvin.
Third Assistant	P. H. Raymond.
Fourth Assistant	Edward F. Belcher.

Clerk of the Board.

Joseph H. Marvin.

Police Department.

Chief of Police.

FORDYCE M. STIMSON.

Principal Constables.

DISTRICT I.
Fordyce M. Stimson.

DISTRICT II.
William Twist.

DISTRICT III.
John L. Boynton.

Policemen.

DISTRICT I.

Timothy Ames,
Thomas D. Cook,
James B. Morse,
Micah W. Cook,
Andrew Sproul,
Andrew G. Smith,
George A. Marston,
Benjamin Kennard,
Moses M. Child,
John S. Milliken,
Leonard Shackford,
Albert D. Cleveland.

District II.

Benjamin F. Bridden,
Abel A. Hildreth,
George H. Copeland,
Daniel Sherman,
Charles L. Russell,
Michael J. Farrell,
James H. Parks,
Frederick W. Hagar,
George Wood,
George S. Dudley,
Warner W. Simonds,
Thomas H. Lucy.

District III.

Amori Benson, Jr.,
William Mullett,
Dennis Corcoran,
Henry Kinsley,
Moses W. Hooper,
Matthew R. Moore,
Amos Jones.

Fire Police.

George S. Pike,
Moses Ricker,
James M. Hilton.

Truant-Officers.

Fordyce M. Stimson,
John L. Boynton,
Abel A. Hildreth,
Benj. F. Bridden,
Moses M. Child,
Thomas D. Cook,
Amori Benson, Jr.

Special Policemen.

George B. Eaton,
Thomas J. Casey,
Joseph H. Marvin,
Patrick H. Raymond,
Edward F. Belcher,
Roland Litchfield,
Austin K. Jones,
John H. Marcy,
James Murray,
Samuel M. Frye,
Lucius A. Buck,
James F. Jefferds,
Edward T. Fairfield,
Thomas G. Bruce,
Roland Litchfield, Jr.,
Austin J. Coolidge,
Daniel L. Winsor,
Joseph G. Bicknell,
Albert E. Clark,
James C. Wilder,
Enoch J. Howlett,
Rufus S. Downe,
Thomas McIntire, Jr.,
Robert C. Brown,

William Locklin,
Stephen E. Day,
Leonard Bacon,
Benjamin F. Livingston,
Joseph W. Averill,
James T. Sell,
J. J. Brown,
William D. Whittemore,
Howard M. Sawyer,
Hastings Gifford,
Joseph S. Dolbeare,
Abner J. Osborn,
James K. Farwell,
Alvah Whitney,
Lorenzo Ritterbush,
Samuel Church,
Patrick Dunigan,
Joel C. Pettingill.

Constables.

Fordyce M. Stimson,
William Twist,
John L. Boynton,
John C. Burdakin,
Thomas W. Frederickson,
Clark Moore,
Charles H. Hunnewell,
John Stimpson,
Charles J. Adams,
James F. Jefferds,
Thomas Work,
Thomas McIntire, Jr.,
Frederick A. Lull,
George H. Howard.

Superintendent of Burial Ground.

Ward I.

Benjamin F. Wyeth.

Undertakers.

Benjamin F. Wyeth,
Roland Litchfield,
John Pear,
Samuel F. Hunt,
Francis E. Devens,
William Casey,
C. Henry Lockhart,
Alvah A. Hadley,
Benjamin J. Hoyt,
John Collier.

Auctioneers.

Samuel R. Knights,
John C. Farnham,
John L. Porter,
William A. Munroe,
Samuel C. Knights.

Measurers of Wood and Bark.

James H. Fuller,
John R. Taylor,
Dalphon Osborn,
John F. Brine,
Francis H. White,
Benjamin J. Hoyt,
Ivory P. Estes,
J. Henry Wyman.

Fence-Viewers.

George B. Lothrop, Abiel Goss,
Abel Stevens.

Field-Drivers.

Andrew Sproul,
Timothy Ames,
Thomas D. Cook,
James S. Milliken,
Benjamin F. Bridden,
Thomas Work,
Amori Benson, Jr.,
George A. Marston,
Abel A. Hildreth.

Pound-Keepers.

George W. Ames, Thomas D. Cook,
George A. Marston.

Fish Officers.

Thomas D. Cook, Joseph W. Averill,
Andrew Sproul.

Hay Weighers.

Otis H. Hendley,
William C. Brooks,
Daniel Stone,
Ivory P. Estes,
Francis H. White,
Joseph Burridge,
John F. Brine,
Emerson W. Law.

Coal Weighers.

James F. Jefferds,
Joseph Burridge,
William H. Raymond,
John F. Brine,
Thomas McIntire, Jr.,
William A. Hunnewell,
George S. Graves,
J. Henry Wyman,
William C. Brooks,
Emerson W. Law,
George S. Wright,
Jones Valentine.

Weigher of Boilers and Heavy Machinery.

Joseph Burridge.

Weigher.

Henry Newman.

Sealer of Weights and Measures.

Enoch J. Howlett.

Inspector of Milk.

Enoch J. Howlett.

Surveyors of Mechanics' Work.

William S. Barbour,
William A. Mason,
John S. Pollard.

Inspector of Charcoal Baskets.

Enoch J. Howlett.

Measurer of Grain.

Enoch J. Howlett.

WARD OFFICERS.

Ward I.

WARDEN.
James H. Wyeth.

CLERK.
John S. Winkley.

INSPECTORS.
Samuel E. Chamberlain,
Samuel F. Rugg,
James B. F. Thomas.

Ward II.

WARDEN.
Enoch J. Howlett.

CLERK.
James E. Hall.

INSPECTORS.
George C. Howlett,
John M. Davis,
Taylor P. Rundlett.

Ward III.

WARDEN.
Luther L. Parker.

CLERK.
Andrew Fogg.

INSPECTORS.
B. J. McCormic,
P. W. Fitzpatrick,
John W. Coveney.

Ward IV.

WARDEN.
Daniel D. Leeds.

CLERK.
Edward A. Willard.

INSPECTORS.
Charles F. Swett,
William H. Whitney,
Albert J. Sawyer.

Ward V.

WARDEN.
Russell S. Edwards.

CLERK.
Francis H. White.

INSPECTORS.
Charles L. Fuller,
Daniel O'Connell, 2d,
Lewis Sage.

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